software AG

Super Natural

Tutorial

Version 9.2.2

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Preface

This tutorial introduces you to using the most important functions in Super Natural and guides you through adding 11 sample transactions.

1   About this Documentation

Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
`Monospace font`	Identifies service names and locations in the format *`folder.subfolder.service`*, APIs, Java classes, methods, properties.
`Italic`	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
`Monospace font`	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
|	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the | symbol.
[ ]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [ ] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

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2   **About this Tutorial**

Using this tutorial, you can gain hands-on experience of the product by creating practical examples.

The sample transactions provide an introduction to the major features of Super Natural.

The description of how to create the first transaction Sample1 is very detailed. The other transaction descriptions refer to parts of the first description when procedures are identical.

The descriptions of the first two transactions guide you through adding transactions using the Help, Asterisk List and Continue functions. The other descriptions tell you how to create the transactions as quickly as possible.

The transaction descriptions tell you where you can obtain further information on certain subjects.

The sample transactions use the demonstration files supplied with Super Natural.

The transaction descriptions assume that you have the following default transaction modes:

```
       Help          Exit               Flip                            Canc

   09:22                    ***** Super Natural *****          06.Jan.1998
   SNPROF                      - Modify Profile -                 Wednesday

                                        +---Transaction Modes Reporting----+
              _  Screen Colors          !                                  !
                                        ! Data Selection .. F  Full-screen !
              _  Screen Defaults        !                                  !
                                        ! Data Change ..... N  None        !
              _  Date/Time Formats      !                                  !
                                        ! Report Type ..... L  List        !
              _  PF Key Settings        ! Report Level .... D  Detailed    !
                                        !                                  !
              _  Language Code and Checklis ! Destination ..... S  Screen  !
                                        !                                  !
              _  Transaction Options    ! Run Mode ........ O  Online      !
                                        !                                  !
              X  Transaction Modes      ! Batch printer ...    (0 - 31)    !
                                        ! RJE available ... N  (Y/N)       !
                                        !                                  !
                                        +----------------------------------+
```

3 Sample 1: Basic Transaction

Task: Find the start and destination harbors of cruises with yachts of type ATLANTIC 29.

For this transaction, all you need to define are a primary file, display fields and selection criteria. These are the minimum requirements for a transaction.

Transaction Specification

Primary File	*SAG-TOURS-E-CRUISE*
Display Fields	1: `CRUISE-ID` 2: `START-HARBOR` 3: `DESTINATION-HARBOR`
Selection Criteria	CHARTER-YACHT-TYPE = 'ATLANTIC 29'

This section covers the following topics:

- **Create the Transaction SAMPLE1**

Create the Transaction SAMPLE1

≫ **To add a transaction**

1 Select Transaction from the Main Menu.

   Or:

   Issue the `TRANSACTION` command.

   The Transaction List screen appears. The Transaction List screen is an object list screen. For further information on object list screens, see Choosing an Object in *Starting Up* in the *User's Guide*.

2 Type SAMPLE1 in the `Add` field.

   Or:

   Issue the `ADD TRANSACTION SAMPLE1` command.

   You can abbreviate this command to `AD TR SAMPLE1`.

   The Add Transaction window appears with the transaction name already entered in the `Transaction ID` field.

3 Type the description Basic Transaction in the Description field (optional).

≫ **To Choose File**

The report requires data from the file *SAG-TOURS-E-CRUISE.*

1   Type an asterisk (*) in the `File Name` field.

2   Press Enter.

The File Selection List appears as in the following example:

```
14:12                      ***** Super Natural *****                1993-02-10
                            - Transaction List -                        SN1110
                                                                             ↩

Cmd  Name    Descript + +---------------File Selection List----------------+
      *_____         ! !   File Name                      Access  Info !
  __  CRUI    (93-02-0 ! !  _  SAG-TOURS-E-CH-PRICES           R      _  ↩
!
  __  CRUISE  (93-02-0 ! !  _  SAG-TOURS-E-COMPANY             R      _  ↩
!
  __  CRUI2   (93-02-0 ! !  _  SAG-TOURS-E-CONTRACT            R      _  ↩
!
  __  DATE    (93-02-0 ! !  _  SAG-TOURS-E-CRUISE             R      _  ↩
!
  __  PRICE   cruise p ! !  _  SAG-TOURS-E-PERSON             R      _  ↩
!
  __  SAG-PER 93-01-27 ! !  _  SAG-TOURS-E-YACHT              R      _  ↩
!
  __  SAMPLEX simple t ! !  _                                        _  ↩
!
  __  SAMPLE2 ex3-02-0 ! !  _                                        _  ↩
!
  __  SAMPLE3 (92-12-1 ! !  _                                        _  ↩
!
  __  TRAN3   (93-02-0 + !  _                                        _  ↩
!
  __         _____ !  _                                          _  ↩
!
  __         _____ !  _                                          _  ↩
!
Add  sample1           !  _                                          _  ↩
!
                       !                                                ↩
!
Cmd(s): Modify, Execute, +------------------------------------------------+
```

3   Mark *SAG-TOURS-E-CRUISE* either with any non-blank character or with the cursor position.

4   Press Enter.

The file name appears in the Add Transaction window as follows:

```
14:12                    ***** Super Natural *****               1993-02-10
                          - Transaction List -                      SN1110
                                                                       ↵
Cmd  Name     Descript +------------------Add Transaction------------------+
     *_____          !                                               ↵
 !
  __  CRUI     (93-02-0 ! Transaction ID .... SAMPLE1                  ↵
 !
  __  CRUISE   (93-02-0 ! Description ....... basic transaction_____   ↵
 !
  __  CRUI2    (93-02-0 !                     _____   ↵
 !
  __  DATE     (93-02-0 !                                             ↵
 !
  __  PRICE    cruise p ! File name ......... SAG-TOURS-E-CRUISE_____  !
  __  SAG-PER  93-01-27 !                                             ↵
 !
  __  SAMPLEX  simple t ! Modify modes ...... _                       ↵
 !
  __  SAMPLE2  ex3-02-0 ! Data maintenance .. N (Y/N)                 ↵
 !
  __  SAMPLE3  (92-12-1 !                                             ↵
 !
  __  TRAN3    (93-02-0 +------------------------------------------------------+
```

You can also type the file name *SAG-TOURS-E-CRUISE* directly in the `File Name` field.

5   Press Enter.

     The Worksheet appears.

≫ To Choose Fields

The report requires data stored in the fields `CRUISE-ID`, `START-HARBOR` and `DESTINATION-HARBOR`.

1   Enter an asterisk (*) in the first position of the Field Name column.

     The Field Selection List window appears:

```
14:11                        ***** Super Natural *****              1993-02-01
SAMPLE1                           - Worksheet -                         SN3011
                                                                            ↵

Ref DB    Field Name    +---------------Field Selection List---------------+
BE        _____ !     Field Name                     Format   Info !
BF        _____ !  _  CRUISE-ID                       N8        __   ↵
!
BG        _____ !  _  CRUISE-TYPE                     A1        __   ↵
!
BH        _____ !  _  CRUISE-STATUS                   A1        __   ↵
!
BI        _____ !  _  START                           *G1       __   ↵
!
BJ        _____ !  _  START-DATE                      N8        __   ↵
!
BK        _____ !  _  START-TIME                      N6        __   ↵
!
BL        _____ !  _  END                             *G1       __   ↵
!
BM        _____ !  _  END-DATE                        N8        __   ↵
!
BN        _____ !  _  END-TIME                        N6        __   ↵
!
BO        _____ !  _  START-HARBOR                    A20       __   ↵
!
BP        _____ !  _  DESTINATION-HARBOR              A20       __   ↵
!
BQ        *_____ !  _  ID-YACHT                        N8        __   ↵
!
BR        _____ !  _  ID-PREDECESSOR                  N8        __   ↵
!
                        !                                                    ↵
!
                        +More:   +--------------------------------------------+
```

2   Mark the fields CRUISE-ID, START-HARBOR and DESTINATION-HARBOR.

3   Press Enter.

The fields appear in the Field Name column and the Worksheet columns next to them are
open. The fields are displayed in order of field reference. For further information on field
references, see Field Reference (Ref) Column in *Working with the Worksheet* in the *User's Guide*.

You can also enter the names directly into the Field Name column.

>> **Determine Display Sequence**

CRUISE-ID is to be displayed first, START-HARBOR second and DESTINATION-HARBOR third in the report.

1   Type 1 in the Sequence column next to the field CRUISE-ID.

2   Type 2 in the Sequence column next to the field START-HARBOR.

3   Type 3 in the Sequence column next to the field DESTINATION-HARBOR.

The Worksheet now has the following entries:

```
11:32                       ***** Super Natural *****              1993-02-01
SAMPLE1                          - Worksheet -                         SN3011
                                                                          ↵

Ref DB    Field Name                    Seq   S/C  Func Def  Info Del    ↵

AA  1K    CRUISE-ID .....................  1__   ___   __   __   __
AJ  1K    START-HARBOR ..................  2__   ___   __   __   __
AK  1K    DESTINATION-HARBOR ............  3__   ___   __   __   __
BE        _____    ___   ___   __   __   __   __  ↵

BF        _____    ___   ___   __   __   __   __  ↵

BG        _____    ___   ___   __   __   __   __  ↵

BH        _____    ___   ___   __   __   __   __  ↵

BI        _____    ___   ___   __   __   __   __  ↵

BJ        _____    ___   ___   __   __   __   __  ↵

BK        _____    ___   ___   __   __   __   __  ↵

BL        _____    ___   ___   __   __   __   __  ↵

BM        _____    ___   ___   __   __   __   __  ↵

BN        _____    ___   ___   __   __   __   __  ↵

BO        _____    ___   ___   __   __   __   __  ↵

                                                                          ↵

                                                                          ↵

Fill in required definitions                                              ↵

Command ===>                                                              ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip  -     +          Sel   Run   Canc ↵
```

Notice that the `Delete` column is now protected for the fields selected for display. For further information on protected columns, see *Sample 2: Worksheet*.

≫ **Create Selection Criteria using the** `Continue` **Function**

The report requires information for cruises which have yachts with charter yacht type ATLANTIC 29.

1   Issue the SELECTION command.

     You can abbreviate this command to SEL.

     The Selection Editor appears.

2   Issue the CONTINUE command.

     This command is allocated to PF10.

     The Fields window appears:

```
13:21                        ***** Super Natural *****                 1993-02-01
SAMPLE1                         - Selection Editor -                      SNZUL-S
                                                                               ↵

                                      +---------------Fields----------------+
      1  <                            !                                     ↵
  !
      2  <                            !   _  Field List  Invoke Field List  ↵
  !
      3  <                            !   _  ALL         Select All Records !
      4  <                            !                                     ↵
  !
      5  <                            ! Mark to replace:                    ↵
  !
      6  <                            !                                     ↵
  !
      7  <                            +-------------------------------------+
```

3   Mark the Field List field.

4   Press Enter.

     The Field Selection List appears showing the fields already in the Field Name column of the
     Worksheet marked with a chevron (>).

```
13:21                          ***** Super Natural *****                  1993-02-01
SAMPLE1                          - Selection Editor -                      SNZUL-S
                                                                                ↵

                      +---------------Field Selection List---------------+
     1  <              !     Field Name                       Format  Info !
     2  <              !  >  CRUISE-ID                         N8       __   ↵
 !
     3  <              !  >  START-HARBOR                      A20      __   ↵
 !
     4  <              !  >  DESTINATION-HARBOR                A20      __   ↵
 !
     5  <              !  _                                             __   ↵
 !
     6  <              !  _                                             __   ↵
 !
     7  <              !  _                                             __   ↵
 !
     8  <              !  _                                             __   ↵
 !
     9  <              !  _                                             __   ↵
 !
    10  <              !  _                                             __   ↵
 !
    11  <              !  _                                             __   ↵
 !
    12  <              !  _                                             __   ↵
 !
    13  <              ! The selected field will be included.                ↵
 !
    14  <              ! Mark to replace: _                                  ↵
 !
    15  <              !                                                     ↵
 !
                      +More:   +-----------------------------------------+
```

5   Issue the FORWARD command to see the next page of the Field List.

6   Mark the field CHARTER-YACHT-TYPE.

7   Press Enter.

    The field name CHARTER-YACHT-TYPE appears in the first editor line.

8   Press Enter.

    The Operator window appears:

```
13:23                       ***** Super Natural *****              1993-02-01
SAMPLE1                        - Selection Editor -                   SNZUL-S
                                                                           ↵

                                        +----------Operator-----------+
       1  < CHARTER-YACHT-TYPE          !                             ↵
!
       2  <                             !   _  EQ (=)    Equal to      ↵
!
       3  <                             !   _  NE (ª=)   Not Equal      ↵
!
       4  <                             !   _  LT (<)    Less than      ↵
!
       5  <                             !   _  LE (<=)   Less Equal     ↵
!
       6  <                             !   _  GT (>)    Greater than ↵
!
       7  <                             !   _  GE (>=)   Greater Equal !
       8  <                             !   _  ST        Starting with !
       9  <                             !                             ↵
!
      10  <                             ! Mark to replace: _           ↵
!
      11  <                             !                             ↵
!
      12  <                             +----------------------------+
```

```
 12:01                        ***** Super Natural *****                   1995-05-12
 NSN1                            - Selection Editor -                         SNZUL-S

                                                    +----------Operator----------+
        1  < CHARTER-YACHT-TYPE                     !                            ↵
 !
        2  <                                         !    _  EQ (=)    Equal to    ↵
 !
        3  <                                         !    _  NE (^=)   Not Equal   ↵
 !
        4  <                                         !    _  LT (<)    Less than   ↵
 !
        5  <                                         !    _  LE (<=)   Less Equal  ↵
 !
        6  <                                         !    _  GT (>)    Greater than ↵
 !
        7  <                                         !    _  GE (>=)   Greater Equal !
        8  <                                         !    _  ST        Starting with !
        9  <                                         !                            ↵
 !
       10  <                                         ! Mark to replace: _         ↵
 !
       11  <                                         !                            ↵
 !
       12  <                                         +----------------------------+
       13  <                                                              >   13
       14  <                                                              >   14
       15  <                                                              >   15


 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                    Flip                                   Canc
```

9   Mark the EQ (=) Equal To field.

10 Press Enter.

The operator = appears in the first editor line.

11 Press PF10.

The Value window appears:

```
13:23                      ***** Super Natural *****                1993-02-01
SAMPLE1                      - Selection Editor -                    SNZUL-S
                                                                         ↵

                                   +--------------Value--------------+
     1  < CHARTER-YACHT-TYPE =       !                                 ↵
!
     2  <                            !   _  Alphanumeric Constant       ↵
!
     3  <                            !   _  Hex Constant                ↵
!
     4  <                            !   _  Define Dynamic Input Field !
     5  <                            !   _  Invoke Field List           ↵
!
     6  <                            !                                  ↵
!
     7  <                            !   _  SCAN                        ↵
!
     8  <                            !   _  MASK                        ↵
!
     9  <                            !                                  ↵
!
    10  <                            ! Mark to replace: _               ↵
!
    11  <                            !                                  ↵
!
    12  <                            +--------------------------------+
```

12 Mark the `Alphanumeric Constant` field.

For further information on alphanumeric constants, see Constants in *Fields* in the *User's Guide*.

13 Press Enter.

The Alphanumeric Constant window appears:

```
13:23                         ***** Super Natural *****              1993-02-01
SAMPLE1                         - Selection Editor -                    SNZUL-S
                                                                             ↵

                                           +-------Alphanumeric Constant--------+
       1  < CHARTER-YACHT-TYPE =           !                                   ↵
!
       2  <                                !  '_____    ↵
!
       3  <                                !    _____ ' !
       4  <                                !                                   ↵
!
       5  <                                ! Mark to replace: _                ↵
!
       6  <                                !                                   ↵
!
       7  <                                +-----------------------------------+
       8  <                                  !    _    MASK                     ↵
!
       9  <                                  !                                  ↵
!
      10  <                                  ! Mark to replace: _               ↵
!
      11  <                                  !                                  ↵
!
      12  <                                  +------------------------------+
```

14 Type ATLANTIC 29 in the unnamed input field.

15 Press Enter.

The value ATLANTIC 29 appears in inverted commas (' ') in the first editor line.

You can also enter CHARTER-YACHT-TYPE = 'ATLANTIC 29' directly in the editor lines.

```
13:25                         ***** Super Natural *****              1993-02-01
SAMPLE1                         - Selection Editor -                    SNZUL-S
                                                                             ↵

                                                                             ↵

       1  < CHARTER-YACHT-TYPE = 'ATLANTIC 29'                         >     1
       2  <                                                            >     2
       3  <                                                            >     3
       4  <                                                            >     4
       5  <                                                            >     5
```

16   Issue the `CHECK` command. This command is allocated to PF5.

      If the selection lines are correct, the transaction specification is complete. You have specified fields to use, display sequence and selection criteria.

≫ **To Run the Transaction**

You can now either save the transaction and execute it later or you can run it to see the report immediately. If the selection lines are incorrect, you can either correct them or keep the transaction and finish it later.

1   Issue the `RUN` command. This command is allocated to PF11.

     The report is generated:

```
13:28:32  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                        1993-02-01
ISAMPLE1                                                            1      ↵

                                                                           ↵

CRUISE-ID    START-HARBOR       DESTINATION-HARBOR                         ↵

---------  -------------------  -------------------                        ↵

                                                                           ↵

      79 KIEL                 KIEL                                         ↵

      80 KIEL                 KIEL                                         ↵

      81 KIEL                 KIEL                                         ↵

      82 KIEL                 KIEL                                         ↵

      83 KIEL                 KIEL                                         ↵

      84 KIEL                 KIEL                                         ↵

      85 KIEL                 KIEL                                         ↵

      86 KIEL                 KIEL                                         ↵

      87 KIEL                 KIEL                                         ↵

      88 KIEL                 KIEL                                         ↵

      89 KIEL                 KIEL                                         ↵

      90 KIEL                 KIEL                                         ↵

      91 KIEL                 KIEL                                         ↵

      92 KIEL                 KIEL                                         ↵

      93 KIEL                 KIEL                                         ↵

                                                                           ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
         Print Exit                   Flip        +                    Canc ↵
```

2   Copy the transaction SAMPLE1 and call it EG1 as described in Copying Transactions in *Using Reporting Transactions* in the *User's Guide*.

3   Try changing the order of the display fields and change the selection criteria to DESTINATION-
     HARBOR = 'BAHAMAS' or CHARTER-YACHT-TYPE = 'INDIC-CAT 42'.

4   Sample 2: Worksheet

Task: List cruises sorted according to cruise starting date and show the cheapest cruise price available for each data and the cheapest cruise ofer all. Do not show cruises which cost less than 500.

This transaction uses the Worksheet to define fields for horizontal and vertical display, change field output definition, a sort field, a control field and a system function at control breaks.

Transaction Specification

Primary File	*SAG-TOURS-E-CRUISE*
Display Fields	1A: `START-DATE` 1B: `END-DATE` 2: `CRUISE-PRICE` 3: `CRUISE-ID` 4: `START-HARBOR` 5: `DESTINATION-HARBOR` 6: `CHARTER-YACHT-TYPE`
Control Field	1: `START-DATE`
System Function	`Minimum` on field `CRUISE-PRICE`
Sort Field	2: `START-HARBOR`
Selection Criteria	AT GE 500

This section covers the following topic:

■ **Create the Transaction SAMPLE2**

Create the Transaction SAMPLE2

≫ **Add a Transaction**

■ Add a transaction called SAMPLE2 with the description Worksheet as described in Step 1 of the section *Sample 1* earlier in this chapter.

≫ **To Choose File**

The reports requires data from the file *SAG-TOURS-E-CRUISE*.

■ Choose the file *SAG-TOURS-E-CRUISE* as described in Step 2 of the section *Sample 1*.

≫ **To Choose Fields**

The report requires data stored in the fields `CRUISE-ID`, `CHARTER-YACHT-TYPE`, `START-DATE`, `END-DATE`, `START-HARBOR`, `DESTINATION-HARBOR` and `CRUISE-PRICE`.

■   Choose the fields as described in Step 3 of *Sample 1*.

≫ To Determine Display Sequence for Vertical Output

START-DATE and END-DATE are to be displayed first with START-DATE above END-DAT E.

1   Enter a question mark (?) in the Sequence column next to the field START-DATE.

The Help: Seq Column window appears:

2   Mark Vertical Output.

```
11:56                       ***** Super Natural *****              1993-05-24
SAMPLE2                         - Worksheet -                          SN3011
                                                                           ↵

Ref DB    Field Name                  +-----------Help: Seq Column-----------+
AA   1K    CRUISE-ID ............... ! Field: START-DATE                     ↵
!
AE   1K 2  START-DATE .............. !                                       ↵
!
AH   1K 2  END-DATE ................ ! Used to define the output sequence for !
AJ   1K    START-HARBOR ............ ! this field.                           ↵
!
AK   1K    DESTINATION-HARBOR ...... !                                       ↵
!
AP   1  2  CHARTER-YACHT-TYPE ...... !   _   Horizontal Output               ↵
!
AT   1  2  CRUISE-PRICE ............ !   X   Vertical Output                 ↵
!
BE         _____ !   _   Output as Text                  ↵
!
BF         _____ !                                       ↵
!
BG         _____ +---------------------------------------+
```

3   Press Enter.

The Help: Vertical Output window appears.

4   Mark the field next to 1.

```
11:56                        ***** Super Natural *****                 1993-05-24
SAMPLE2                          - Worksheet -                          SN3011
                                                                           ↵

Ref DB   Field Name                +------------He +-Help: Vertical Output--+
AA  1K   CRUISE-ID ................ ! Field: START- ! Field: START-DATE    ↵
!
AE  1K 2 START-DATE ............... !               !                       ↵
!
AH  1K 2 END-DATE ................. ! Used to defin !      Number           ↵
!
AJ  1K   START-HARBOR ............. ! this field.   !   x     1             ↵
!
AK  1K   DESTINATION-HARBOR ....... !               !   _     7             ↵
!
AP  1  2 CHARTER-YACHT-TYPE ....... !   _  Horizont !   _     8             ↵
!
AT  1  2 CRUISE-PRICE ............. !   m  Vertical !   _     9             ↵
!
BE       _____ !   _  Output a !   _    10             ↵
!
BF       _____ !              !   _    11             ↵
!
BG       _____ +-------------- !   _    12             ↵
!
BH       _____   ___  _ !   _    13             ↵
!
BI       _____   ___  _ !   _    14             ↵
!
BJ       _____   ___  _ !   _    15             ↵
!
BK       _____   ___  _ !                       ↵
!
                                        +-----------------------+
```

This is the number of the column the field will be in.

5   Press Enter.

     The Help: Horizontal Output window appears:

6   Mark the field next to 1A.

```
11:59                        ***** Super Natural *****              1993-05-24
SAMPLE2                           - Worksheet -                        SN3011
                                                                         ↵

Ref DB    Field Name                 +------------ +-Help: Vertical Output----+
AA  1K    CRUISE-ID ................ ! Field: STAR ! Field: START-DATE     ↵
!
AE  1K 2  START-DATE .............. !             !                        ↵
!
AH  1K 2  END-DATE ................ ! Used to def !      Number            ↵
!
AJ  1K    START-HARBOR ............ ! this field. !   X    1A              ↵
!
AK  1K    DESTINATION-HARBOR ....... !            !   _    1B              ↵
!
AP  1  2  CHARTER-YACHT-TYPE ....... !   _ Horizo !   _    1C              ↵
!
AT  1  2  CRUISE-PRICE ............ !   m  Vertic !   _    1D              ↵
!
BE        _____ !   _ Output !   _    1E              ↵
!
BF        _____ !            !   _    1F              ↵
!
BG        _____ +------------ !   _    1G              ↵
!
BH        _____     ___  !   _    1H              ↵
!
BI        _____     ___  !   _    1I              ↵
!
BJ        _____     ___  !   _    1J              ↵
!
BK        _____     ___  !                        ↵
!
                                            +------------------------+
```

This positions the field at the top of the column.

7   Press Enter.

    1A appears in the Sequence column next to the field START-DATE.

    You can also enter 1A directly in the Sequence column.

8   Do the same for the field END-DATE but specify the position 1B.

    This positions the field END-DATE directly beneath the field START-DATE in column 1 of the
    report.

    You can also enter 1B directly in the Sequence column.

≫ To Change Header of Vertical Output Column

The columns for vertical output have the header of the field marked with the letter nearest A by default. This report requires a column header which is more appropriate to the contents, so you need to change the header for the first field in the column.

1   Enter a question mark (?) in the `Definition` column next to the field `START-DATE`.

    The Help: Def Column window appears:

```
08:51                          ***** Super Natural *****              1993-02-04
SAMPLE2                              - Worksheet -                        SN3011
                                                                              ↵

Ref DB    Field Name                +------------Help: Def Column------------+
AA  1K    CRUISE-ID .............. ! Field: START-DATE                      ↵
!
AE  1K 2  START-DATE ............. !                                        ↵
!
AH  1K 2  END-DATE ............... ! Used to modify the output definition for !
AJ  1K    START-HARBOR ........... ! this field.                           ↵
!
AK  1K    DESTINATION-HARBOR ..... !                                       ↵
!
AP  1  2  CHARTER-YACHT-TYPE ..... !   _   OD   Output Definition           ↵
!
AT  1  2  CRUISE-PRICE ........... !                                       ↵
!
BE        _____ +----------------------------------------+
```

2   Mark the `Output Definition` field.

3   Press Enter.

    You can also enter OD directly in the `Definition` column. The Define Field Output window appears.

4   Make the following entries in the `Heading` fields:

```
09:40                         ***** Super Natural *****                    1993-02-03
SAMPLE2                           - Worksheet -                             SN3011
                                                                                 ↵

Ref DB    Field Na +-----------------Define Field Output-------------------+
AA  1K     CRUISE-I ! Field: START-DATE                                    ↵
 !
AE  1K  2  START-DA !                                                      ↵
 !
AH  1K  2  END-DATE ! Format/Length ....... N8                            ↵
 !
AJ  1K     START-HA ! Numeric sign ........ _ (Y/N)                        ↵
 !
AK  1K     DESTINAT ! Output length ....... 8__                           ↵
 !
AP  1   2  CHARTER- !     dec. places .. _                                ↵
 !
AT  1   2  CRUISE-P ! Heading ............. START DATE_____  ↵
 !
BE         _____ !                      END DATE_____   ↵
 !
BF         _____ !                      _____    ↵
 !
BG         _____ ! Edit mask                                           ↵
 !
BH         _____ !  _____ !
BI         _____ ! Suppress identical values .. _ (Y/N)               ↵
 !
BJ         _____ ! Print zero values .......... _ (Y/N)               ↵
 !
BK         _____ ! Occurrences (1)  ___ : ___  (2)  ___ : ___         ↵
 !
                    !                                                     ↵
 !
                    +-----------------------------------------------------+
```

5   Press Enter.

≫ To Determine Display Sequence for Horizontal Output

The rest of the fields are to be displayed horizontally. CRUISE-PRICE is to be displayed first after
the vertical output column, then CRUISE-ID, START-HARBOR, DESTINATION-HARBOR, and
CHARTER-YACHT-TYPE. When you just enter a number in the Sequence column, the field is displayed
horizontally by default.

1   Type 2 in the Sequence column next to the field CRUISE-PRICE.

2   Type 3 in the Sequence column next to the field CRUISE-ID.

3   Type 4 in the `Sequence` column next to the field `START-HARBOR`.

4   Type 5 in the `Sequence` column next to the field `DESTINATION-HARBOR`.

5   Type 6 in the `Sequence` column next to the field `CHARTER-YACHT-TYPE`.

≫ To Define Control Break Processing

The report must present data sorted according to the cruise starting date and show the cheapest cruise price available for each date. However, the report should not show cruises costing less than 500.

1   Enter a question mark (?) in the `Sort/Control (S/C)` column next to the field `START-DATE`.

The Help: S/C Column window appears.

2   Mark the `Control Field` field.

3   Mark the `Sort/Control Level` field.

The Help: S/C Column window now has the following entries:

```
10:57                        ***** Super Natural *****                1993-02-03
SAMPLE2                            - Worksheet -                          SN3011
                                                                            ↵

Ref DB    Field Name                      +--------Help: S/C Column--------+
AA  1K    CRUISE-ID .....................  ! Field: START-DATE            !
AE  1K 2  START-DATE ....................  !                             ↵
!
AH  1K 2  END-DATE ......................  ! Type                        ↵
!
AJ  1K    START-HARBOR ..................  !   _  S  Sort Field          ↵
!
AK  1K    DESTINATION-HARBOR ............  !   x  C  Control Field       ↵
!
AP  1  2  CHARTER-YACHT-TYPE ............  !                             ↵
!
AT  1  2  CRUISE-PRICE ..................  ! Sort Order                  ↵
!
BE        _____    !   _  A or 'blank'  Ascending ↵
!
BF        _____    !   _  D          Descending !
BG        _____    !                             ↵
!
BH        _____    ! Sort/Control Level          ↵
!
BI        _____    !   x  1    _  4    _  7       ↵
!
BJ        _____    !   _  2    _  5    _  8       ↵
!
BK        _____    !   _  3    _  6    _  9       ↵
!
                                          !                             ↵
!
                                          +-----------------------------+
```

4   Press Enter.

     The entry C1 appears in the Sort/Control (S/C) column next to the field START-DATE.

     You can also enter C1 directly in the Sort/Control (S/C) column. When the value of the
     control field START-DATE changes, the report is to display information concerning the field
     CRUISE-PRICE.

5   Enter a question mark (?) in the Function (Func) column next to the field CRUISE-PRICE.

     The Help: Func Column window appears.

6   Mark the System Functions field.

```
11:33                        ***** Super Natural *****                    1993-02-03
SAMPLE2                          - Worksheet -                             SN3011
                                                                              ↵

Ref DB   Field Name            +------------Help: Func Column------------+
AA  1K   CRUISE-ID ............. ! Field: CRUISE-PRICE                    ↵
!
AE  1K 2 START-DATE ........... !                                        ↵
!
AH  1K 2 END-DATE ............. ! Used to define special functions for this !
AJ  1K   START-HARBOR .......... ! field:                                ↵
!
AK  1K   DESTINATION-HARBOR .... !                                        ↵
!
AP  1  2 CHARTER-YACHT-TYPE .... !  X  SF  System Functions               ↵
!
AT  1  2 CRUISE-PRICE .......... !  _  IA  Interfield Arithmetic          ↵
!
BE       _____ !  _  CB  Special Break Conditions        ↵
!
BF       _____ !                                        ↵
!
BG       _____ +----------------------------------------+
```

The Specify System Functions window appears.

7   Mark the Min column next to Grand End of Report to display the minimum value of the field
     CRUISE-PRICE in the whole report.

8   Mark the Min column next to 1 START-DATE to display the minimum value of the field
     CRUISE-PRICE each time the value of the (1st) control field START-DATE changes.

The Specify System Functions window now has the following entries:

```
16:59                           ***** Super Natural *****                    1993-02-02
SAMPLE2                              - Worksheet -                               SN3011
                                                                                      ↵

+-------------------------Specify System Functions-------------------------+
! Field: CRUISE-PRICE                                                      ↵
!
!                                                               N    N    N ↵
!
! Level  Control Field                   Cnt Tot Sum Avg Max Min Cnt Avg Min !
! Grand  End of Report                    _   _   _   _   _   X   _   _   _ ↵
!
!    1   START-DATE                        _   _   _   _   _   X   _   _   _ ↵
!
!                                          _   _   _   _   _   _   _   _   _ ↵
!
!                                          _   _   _   _   _   _   _   _   _ ↵
!
!                                          _   _   _   _   _   _   _   _   _ ↵
!
!                                          _   _   _   _   _   _   _   _   _ ↵
!
!                                          _   _   _   _   _   _   _   _   _ ↵
!
!                                          _   _   _   _   _   _   _   _   _ ↵
!
!                                          _   _   _   _   _   _   _   _   _ ↵
!
!                                          _   _   _   _   _   _   _   _   _ ↵
!
!                                          _   _   _   _   _   _   _   _   _ ↵
!
!                                                                          ↵
!
+--------------------------------------------------------------------------+
```

9   Press Enter.

A chevron (>) appears in the Function (Func) column next to the field CRUISE-PRICE to in-
dicate that the column has been used.

> **Note:** For further information on control break processing, see The Sort/Control (S/C) Column
> and The Function (Func) Column in *Working with the Worksheet* in the *User's Guide*.

≫ **To Define Further Sort Order**

The cruises for each starting date are to be sorted according to their start harbor.

■   Enter S2 in the Sort/Control (S/C) column next to the field START-HARBOR.

You can also use the help system by entering a question mark (?) as described above.

The Worksheet now has the following entries:

```
09:21                      ***** Super Natural *****                 1993-02-04
SAMPLE2                          - Worksheet -                           SN3011
                                                                             ↵

Ref DB    Field Name                      Seq   S/C  Func Def  Info Del     ↵

AA  1K    CRUISE-ID .....................  3__   ___   __  __   __  __      ↵

AE  1K 2  START-DATE ....................  1A_   C1_   __  __   __  __      ↵

AH  1K 2  END-DATE ......................  1B_   ___   __  __   __  __      ↵

AJ  1K    START-HARBOR ..................  4__   S2_   __  __   __  __      ↵

AK  1K    DESTINATION-HARBOR ............  5__   ___   __  __   __  __      ↵

AP  1  2  CHARTER-YACHT-TYPE ............  6__   ___   __  __   __  __      ↵

AT  1  2  CRUISE-PRICE ..................  2__   ___   >_  __   __  __      ↵

BE        _____ __    __    __  __   __  __      ↵

BF        _____ __    __    __  __   __  __      ↵

BG        _____ __    __    __  __   __  __      ↵

BH        _____ __    __    __  __   __  __      ↵

BI        _____ __    __    __  __   __  __      ↵

BJ        _____ __    __    __  __   __  __      ↵

BK        _____ __    __    __  __   __  __      ↵

                                                                             ↵

                                                                             ↵

Fill in required definitions                                                 ↵

Command ===>                                                                 ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip  -     +           Sel   Run   Canc ↵
```

≫ To Define Selection Criteria

1   Issue the `SELECTION` command. You can also abbreviate this command to `SEL`.

     The Selection Editor appears. The report requires information on cruises costing more than 500.

2   Enter AT GE 500 in the editor area.

     `AT` is the Super Natural field reference for the field `CRUISE-PRICE`. You can always use field references instead of field names in the full-screen editors. The field references for fields in the Field Name column of the Worksheet are listed next to them in the `Field Reference (Ref)` column.

     `GE` is the operator `Greater Equals (greater than or equal to)`. Instead of `GE`, you can use the special characters >=.

≫ To Run the Transaction

1   Run the transaction as described in Step 6 of the section *Sample 1*.

     The Report Line Length window appears because you have chosen too many fields to be displayed together horizontally on one screen:

```
10:13                      ***** Super Natural *****              1993-02-03
CRUI2                          - Worksheet -                          SN3011
                                                                          ↩

Ref DB   Field Name   +----------------Report Line Length----------------+
AA  1K    CRUISE-ID .... !                                                ↩
!
AE  1K 2  START-DATE ... ! The selected fields required a line size of .. 108 !
AF  1  2  START-TIME ... ! The field headers required a line size of .... 109 !
AJ  1K    START-HARBOR . ! The available Online  line size at present ... 79 ↩
!
AK  1K    DESTINATION-HA !                                                 ↩
!
AP  1  2  CHARTER-YACHT- !   _  Enlarge Available Line Size                ↩
!
AT  1  2  CRUISE-PRICE . !   _  Change to Report Type Vertical List        ↩
!
BE        _____ !   _  Truncate Headers                            ↩
!
BF        _____ !   _  Remove Excess Fields                        ↩
!
BG        _____ !   _  Remove Excess Fields and Truncate Headers   ↩
!
BH        _____ !   _  Modify Transaction                          ↩
!
BI        _____ !                                                   ↩
!
BJ        _____  +-------------------------------------------------+
BK        _____  ___  ___  __  __  __  __              ↩
```

2   Mark the `Enlarge available line size` option.

3   Press Enter.

    The report is generated. Part of the resulting report is shown below:

Because you chose the option `Enlarge Available Line Size`, the report is wider than the screen.

4   Use PF11 and PF10 to shift to the left and right in the report.

5   Use PF9 to position the field at cursor position to the left-hand side of the screen.

5   Sample 3: User Fields, Calculation and Logical Conditions Editors

Task: List cruises which use charter yacht type ATLANTIC 29. Display end date of cruise under start date and present the information in the format DD.MM.YY. Display the text 'too late' instead of the data sets (files) for cruises which start after 7.1.1991.

The steps in this transaction are performed in a logical order. The order in which the steps are carried out is different to the order in the previous sample transactions.

The data in the fields START-DATE and END-DATE is stored in the format YYYYMMDD which is difficult to read at a glance (you can confirm this by adding a report using the file *SAG-TOURS-E-CRUISE* which has the selection criteria AA and the display fields START-DATE and END-DATE). The following is an example where Y = year, M= month and D = day:
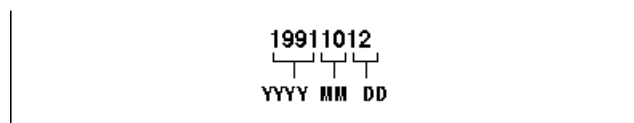
The report requires that the date be presented with the format DD.MM.YY. To do this, you must create three user fields from the field START-DATE: one with the year information, one with the month information and one with the day information. You then join the user fields together in the order day, month, year with periods (.) using the Joining Fields (Concatenation) function in the Calculation Editor as shown in the following diagram:
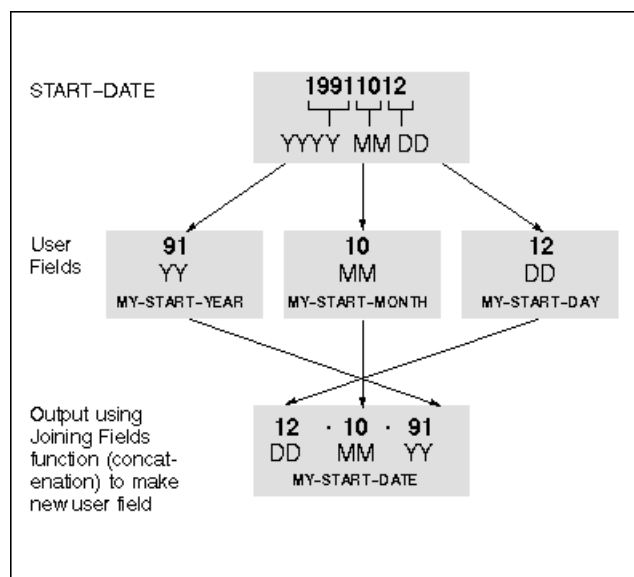
You then do the same for the field END-DATE.

Transaction Specification

Primary File	*SAG-TOURS-E-CRUISE*
User Fields	*MY-START-DATE* *MY-START-YEAR* *MY-START-MONTH* *MY-START-DAY* *MY-END-DATE* *MY-END-YEAR* *MY-END-MONTH* *MY-END-DAY*
Display Fields	**1:** `CRUISE-ID` **2:** `START-HARBOR` **3:** `DESTINATION-HARBOR` **4A:** `MY-START-DATE` **4B:** `MY-END-DATE`
Selection Criteria	CHARTER-YACHT-TYPE = 'ATLANTIC 29'
CalculationStatement	MY-START-DATE=MY-START-DAY!'.'!MY-START-MONTH!'.'!MY-START-YEAR MY-END-DATE=MY-END-DAY!'.'!MY-END-MONTH!'.'!MY-END-YEAR
Logical Conditions Statement	1 I < START-DATE GT 19910701 1 T < MY-START-DATE = 'TOO LATE 1 T < MY-END-DATE = ' '

This section covers the following topics:

- **Create the Transaction SAMPLE3**

Create the Transaction SAMPLE3

≫ **To add a transaction**

1   Issue the `ADD TRANSACTION SAMPLE3` command.

The Add Transaction window appears.

2   Type User Fields and Editors in the `Description` field (optional).

≫ **To Choose a File**

The report requires data from the file *SAG-TOURS-E-CRUISE*.

1   Type *SAG-TOURS-E-CRUISE* in the `File Name` field.

2   Press Enter.

The Worksheet appears.

≫ **To Choose Fields**

The report requires data stored in the fields `CRUISE-ID`, `START-HARBOR` and `DESTINATION-HARBOR`.

■   Type `CRUISE-ID`, `START-HARBOR` and `DESTINATION-HARBOR` beneath each other in the Field Name column.

Or:

Choose the fields using the `Asterisk List function` as described in Step 3 of the section *Sample 1*.

≫ **To Determine Display Sequence for Horizontal Output**

1   Type 1 in the `Sequence` column next to the field `CRUISE-ID`.

2   Type 2 in the `Sequence` column next to the field `START-HARBOR`.

3   Type 3 in the `Sequence` column next to the field `DESTINATION-HARBOR`.

≫ **To Define User Fields**

The report requires the following user fields as described at the beginning of this section: - `MY-START-DATE` - `MY-START-YEAR` - `MY-START-MONTH` - `MY-START-DAY` - `MY-END-DATE` - `MY-END-YEAR` - `MY-END-MONTH` - `MY-END-DAY`

1   Enter `MY-START-DATE` in the Field Name column.

The Define User Field window appears.

2   Type A in the `Format` field.

3   Type 8 in the `Length` field:

```
11:35                      ***** Super Natural *****                1998-02-09
SAMPLE3                         - Worksheet -                          SN3011
                                                                          ↵

Ref DB    Field Name      +----------------Define User Field----------------+
AA  1K     CRUISE-ID ..... ! Field: MY-START-DATE                           ↵
!
AJ  1K     START-HARBOR .. !                                                ↵
!
AK  1K     DESTINATION-HAR ! Name or value .. MY-START-DATE_____ !
BE         my-start-date__ ! Format ......... a                            ↵
!
BF         _____ ! Length ........ 8__                            ↵
!
BG         _____ ! Dec. places ....                              ↵
!
BH         _____ ! Subfield of .... _____ !
BI         _____ ! Offset ......... ___                           ↵
!
BJ         _____ ! Dynamic input .. _                             ↵
!
BK         _____ !                                                ↵
!
BL         _____ +-------------------------------------------------+
```

4   Press Enter.

The user field MY-START-DATE is created.

5   Enter MY-START-YEAR in the Field Name column.

The Define User Field window appears.

6   Type A in the Format field.

7   Type 2 in the Length field:

This user field is going to take part of the value of the database field START-DATE.

8   Type START-DATE in the Subfield Of field.

This user field is going to take the third (3rd) and fourth (4th) characters of the field START-DATE, so you must tell Super Natural to ignore the first two characters.

9   Type 2 in the Offset field.

```
11:50                      ***** Super Natural *****               1998-02-09
SAMPLE3                         - Worksheet -                          SN3011
                                                                           ↵

Ref DB   Field Name     +----------------Define User Field----------------+
AA  1K    CRUISE-ID ..... ! Field: MY-START-YEAR                          ↵
!
AJ  1K    START-HARBOR .. !                                               ↵
!
AK  1K    DESTINATION-HAR ! Name or value .. MY-START-YEAR_____ !
BE   U    MY-START-DATE . ! Format ......... a                           ↵
!
BF        my-start-year__ ! Length ........ 2__                          ↵
!
BG        _____ ! Dec. places .... _                           ↵
!
BH        _____ ! Subfield of .... start-date_____ !
BI        _____ ! Offset ......... 2__                         ↵
!
BJ        _____ ! Dynamic input .. _                           ↵
!
BK        _____ !                                              ↵
!
BL        _____ +-------------------------------------------------+
```

10   Press Enter.

The user field MY-START-YEAR is created.

11   Enter MY-START-MONTH in the Field Name column.

The Define User Field window appears.

12   Type A in the Format field.

13   Type 2 in the Length field:

This user field is also going to take part of the value of the database field START-DATE.

14   Type START-DATE in the Subfield Of field.

This user field is going to take the fifth (5th) and sixth (6th) characters of the field START-DATE, so you must tell Super Natural to ignore the first four characters.

15   Type 4 in the Offset field.

```
11:54                     ***** Super Natural *****              1998-02-09
SAMPLE3                        - Worksheet -                         SN3011
                                                                         ↵

Ref DB   Field Name     +----------------Define User Field----------------+
AA  1K     CRUISE-ID ..... ! Field: MY-START-MONTH                        ↵
!
AJ  1K     START-HARBOR .. !                                              ↵
!
AK  1K     DESTINATION-HAR ! Name or value .. MY-START-MONTH_____ !
BE   U     MY-START-DATE . ! Format ......... a                          ↵
!
BF   U     MY-START-YEAR . ! Length ......... 2__                        ↵
!
BG         my-start-month_ ! Dec. places .... _                          ↵
!
BH         _____ ! Subfield of .... start-date_____  ↵
!
BI         _____ ! Offset ......... 4__                         ↵
!
BJ         _____ ! Dynamic input .. _                           ↵
!
BK         _____ !                                              ↵
!
BL         _____ +-------------------------------------------------+
```

16   Press Enter.

     The user field MY-START-MONTH is created.

17   Enter MY-START-DAY in the Field Name column.

     The Define User Field window appears.

18   Type A in the Format field.

19   Type 2 in the Length field:

     This user field is also going to take part of the value of the database field START-DATE.

20   Type START-DATE in the Subfield Of field.

     This user field is going to take the seventh (7th) and eighth (8th) characters of the field
     START-DATE, so you must tell Super Natural to ignore the first six characters.

21   Type 6 in the Offsetfield.

```
11:59                     ***** Super Natural *****              1998-02-09
SAMPLE3                        - Worksheet -                        SN3011
                                                                        ↩

Ref DB    Field Name     +----------------Define User Field----------------+
AA  1K     CRUISE-ID ..... ! Field: MY-START-DAY                           ↩
!
AJ  1K     START-HARBOR .. !                                               ↩
!
AK  1K     DESTINATION-HAR ! Name or value .. MY-START-DAY_____ !
BE   U     MY-START-DATE . ! Format ......... a                           ↩
!
BF   U     MY-START-YEAR . ! Length ......... 2__                         ↩
!
BG   U     MY-START-MONTH  ! Dec. places .... _                           ↩
!
BH         my-start-day___ ! Subfield of .... start-date_____ !
BI         _____ ! Offset ......... 6__                         ↩
!
BJ         _____ ! Dynamic input .. _                           ↩
!
BK         _____ !                                               ↩
!
BL         _____ +-------------------------------------------------+
```

22   Press Enter.

The user field MY-START-DAY is created.

23   Create the other user fields as shown in the table below:

Field	Format	Length	Subfield Of	Offset
MY-END-DATE	A	8		
MY-END-YEAR	A	2	END-DATE	2
MY-END-MONTH	A	2	END-DATE	4
MY-END-DAY	A	2	END-DATE	6

≫ **To Determine Display Sequence for Vertical Output**

The field MY-START-DATE is to be displayed above the field MY-END-DATE and to the right of the other display fields.

1   Type 4A in the Sequence column next to the field MY-START-DATE.

2   Type 4B in the Sequence column next to the field MY-END-DATE.

≫ **To Change Header of Vertical Output Column**

1   Enter OD in the `Definition (Def)` column next to the field `MY-START-DATE`.

The Define User Field Output window appears.

2   Enter Cruise From To in the Heading fields as shown in the following diagram:

```
14:01                      ***** Super Natural *****                  1998-02-09
SAMPLE3                          - Worksheet -                            SN3011
                                                                             ↵

Ref DB    Field Na +----------------Define User Field Output----------------+
AA  1K     CRUISE-I ! Field: MY-START-DATE                                   ↵
!
AE  1K 2   START-DA !                                                        ↵
!
AH  1K 2   END-DATE ! Format/Length ....... A8                              ↵
!
AJ  1K     START-HA ! Numeric sign ........ _ (Y/N)                         ↵
!
AK  1K     DESTINAT ! Output length ....... 8__                             ↵
!
AP  1  2   CHARTER- !      dec. places .. _                                 ↵
!
BE   U    MY-START ! Heading ............. CRUISE_____  ↵
!
BF   U    MY-START !                       FROM_____  ↵
!
BG   U    MY-START !                       TO_____  ↵
!
BH   U    MY-START ! Edit mask                                              ↵
!
BI   U    MY-END-D !  _____ !
BJ   U    MY-END-Y ! Suppress identical values .. _ (Y/N)                   ↵
!
BK   U    MY-END-M ! Print zero values .......... _ (Y/N)                   ↵
!
BL   U    MY-END-D !                                                        ↵
!
                   +-----------------------------------------------------------+
```

The Worksheet now has the following entries:

```
13:25                        ***** Super Natural *****                1998-02-09
SAMPLE3                         - Worksheet -                             SN3011
                                                                              ↵

Ref DB    Field Name                      Seq   S/C  Func Def  Info Del    ↵

AA  1K    CRUISE-ID ......................  1__   ___   __   __   __   ___    ↵

AJ  1K    START-HARBOR ...................  2__   ___   __   __   __   ___    ↵

AK  1K    DESTINATION-HARBOR .............  3__   ___   __   __   __   ___    ↵

BE   U    MY-START-DATE ..................  4A_   ___   __   __   __   ___    ↵

BF   U    MY-START-YEAR ..................        ___   __   __   __   ___    ↵

BG   U    MY-START-MONTH .................        ___   __   __   __   ___    ↵

BH   U    MY-START-DAY ...................        ___   __   __   __   ___    ↵

BI   U    MY-END-DATE ....................  4B_   ___   __   __   __   ___    ↵

BJ   U    MY-END-YEAR ....................        ___   __   __   __   ___    ↵

BK   U    MY-END-MONTH ...................        ___   __   __   __   ___    ↵

BL   U    MY-END-DAY .....................        ___   __   __   __   ___    ↵

BM        _____          ___   __   __   __   ___    ↵

BN        _____          ___   __   __   __   ___    ↵

BO        _____          ___   __   __   __   ___    ↵

                                                                              ↵

                                                                              ↵

Fill in required definitions                                                  ↵

Command ===>                                                                  ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip  -     +           Sel   Run   Canc ↵
```

Notice that the user fields are marked with a 'U' in the DB Column.

≫ **To Define Selection Criteria**

The report requires data for cruises of charter yacht type ATLANTIC 29.

1   Issue the `SELECTION` command.

     You can abbreviate this command to `SEL`.

     The Selection Editor appears.

2   Enter CHARTER-YACHT-TYPE = 'ATLANTIC 29' in the editor area.

> **Note:** The field `CHARTER-YACHT-TYPE` now appears in the `Field Name` column of the Work-sheet.

≫ **To Present Start Date and End Date of Cruise in the Format DD.MM.YY.**

1   Issue the `CALCULATION` command. You can abbreviate this command to `CAL`.

     The Calculation Editor appears. The first result field in the editor area will be the user field `MY-START-DATE` and will be composed of the user fields `MY-START-YEAR`, `MY-START-MONTH` and `MY-START-DAY` separated by periods (.). You use the `Joining Fields (concatenation)` function to join the fields and periods.

2   Type MY-START-DATE = MY-START-DAY.

3   Type the Joining Fields operator valid for your site.

     If you do not know which operator to use, ask your Super Natural administrator.

     Or:

     Issue the `CONTINUE` command. This command is allocated to PF10.

     The Fields - Operators window appears.

4   Select `Select Operator`.

```
14:24                    ***** Super Natural *****            1998-02-10
SAMPLE3                    - Calculation Editor -                SNZUL-C
                                                                      ↵

                                            +---Fields - Operators---+
      1  < MY-START-DATE=MY-START-DAY         !                      ↵
!
      2  <                                     !   _  Invoke Field List !
      3  <                                     !   _  ROUNDED           ↵
!
      4  <                                     !   _  Define User Field !
      5  <                                     !   x  Select Operator   ↵
!
      6  <                                     !                        ↵
!
      7  <                                     ! Mark to replace:       ↵
!
      8  <                                     !                        ↵
!
      9  <                                     +------------------------+
```

5   Press Enter.

     The Joining Fields window appears.

6   Select the `joining fields operator.`

```
12:09                    ***** Super Natural *****            1998-05-24
SAMPLE3                    - Calculation Editor -                SNZUL-C
                                                                      ↵

                                        +---------Joining Field----------+
      1  < MY-START-DATE=MY-START-DAY      !                              ↵
!
      2  <                                 !   _  !  Joining Field Operator !
      3  <                                 !                              ↵
!
      4  <                                 ! Mark to replace: _           ↵
!
      5  <                                 !                              ↵
!
      6  <                                 +------------------------------+
      7  <                                     ! Mark to replace:         ↵
!
      8  <                                     !                          ↵
!
      9  <                                     +------------------------+
```

7   Press Enter.

The joining fields operator valid at your site is entered at the end of the calculation statement.

8   Issue the CONTINUE command. This command is allocated to PF10.

The Field or Value window appears.

9   Select Alphanumeric Constant.

```
14:34                        ***** Super Natural *****                   1998-02-09
SAMPLE3                        - Calculation Editor -                        SNZUL-C
                                                                                 ↵


                                             +---------Field or Value---------+
      1  < MY-START-DATE = MY-START-DAY  !   !                                     ↵
 !
      2  <                                    !   X   Alphanumeric Constant       ↵
 !
      3  <                                    !   _   Hex Constant                 ↵
 !
      4  <                                    !   _   Define Dynamic Input Field !
      5  <                                    !   _   Invoke Field List           ↵
 !
      6  <                                    !                                    ↵
 !
      7  <                                    +--------------------------------+
```

10   Press Enter.

11   Enter a period (.) in the Alphanumeric Constant window which appears.

A period (.) is entered in quotation marks (' ') at the end of the calculation statement.

For further information on constants see *Constants in Fields* in the *User's Guide*.

12   Type the rest of the calculation statement as shown in the following diagram using the joining fields operator valid at your site.

```
   14:06                         ***** Super Natural *****                    1998-02-09
   SAMPLE3                         - Calculation Editor -                       SNZUL-C
                                                                                      ↵


                                                                                      ↵


        1  < MY-START-DATE=MY-START-DAY!'.'!MY-START-MONTH!'.'!            >    1
        2  < MY-START-YEAR                                                 >    2
        3  < MY-END-DATE=MY-END-DAY!'.'!MY-END-MONTH!'.'!                  >    3
        4  < MY-END-YEAR                                                   >    4
        5  <                                                               >    5
        6  <                                                               >    6
        7  <                                                               >    7
        8  <                                                               >    8
        9  <                                                               >    9
       10  <                                                               >   10
       11  <                                                               >   11
       12  <                                                               >   12
       13  <                                                               >   13
       14  <                                                               >   14
       15  <                                                               >   15
                                                                                      ↵


                                                                                      ↵

   Command ===>                                                                       ↵

   Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
         Help  Next  Exit  Field Check Flip  -     +          Cont  Run   Canc  ↵
```

For further information on joining fields and the joining fields operator, see *Joining Fields* in
Editors in the *User's Guide*.

⟫ To Define Logical Conditions

The report requires that the text 'Too Late' be displayed in the Cruise/To/From column for cruises
which start later than July 1st 1991.

1 Issue the `LOGIC` command. You can abbreviate this command to `LOG`.

   The Logical Conditions Editor appears.

2 Type START-DATE GT 19910701 in the `IF` line.

   The field `START-DATE` now appears in the Field Name column in the Worksheet.

3 Type MY-START-DATE = 'TOO LATE' in the THEN line.

4 Tab to the Clause Type column (on the right).

5   Overtype the E which is already there with a T to create a new THEN line.

6   Press Enter.

7   Type MY-END-DATE = ' ' in the new THEN line.

The Logical Conditions Editor now contains the following entries:

```
16:11                      ***** Super Natural *****              1998-02-09
SAMPLE3                   - Logical Conditions Editor -              SNZUL-L
                                                                        ↵


                                                                        ↵


  1 I    < START-DATE GT 19910701                               > I 1
  1 T    < MY-START-DATE = 'TOO LATE'                           > T 1
  1 T    < MY-END-DATE = ' '                                    > T 1
         <                                                      > _   ↵

         <                                                      > _   ↵

         <                                                      > _   ↵

         <                                                      > _   ↵

         <                                                      > _   ↵

         <                                                      > _   ↵

         <                                                      > _   ↵

         <                                                      > _   ↵

         <                                                      > _   ↵

         <                                                      > _   ↵

         <                                                      > _   ↵

                                                                        ↵

Define logic conditions or use CONTINUE                                 ↵

Command ===>                                                            ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Check Flip  -     +          Cont  Run   Canc ↵
```

≫ **To Run the Transaction**

■   Run the transaction as described in Step 6 of the section *Sample 1* earlier in this section.

The report is generated. Part of the resulting report is shown below:

```
16:16:05  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                        1998-02-09
ISAMPLE3                                                            4       ↵

                                                                            ↵

CRUISE-ID     START-HARBOR      DESTINATION-HARBOR    CRUISE                 ↵

                                                       FROM                  ↵

                                                       TO                    ↵

---------  -------------------  -------------------  --------                ↵

                                                                            ↵

      97 KIEL               KIEL                   8.6.91                     ↵

                                                  22.6.91                     ↵

      98 KIEL               KIEL                  22.6.91                     ↵

                                                  29.6.91                     ↵

      99 KIEL               KIEL                  29.6.91                     ↵

                                                  10.8.91                     ↵

     100 KIEL               KIEL                  TOO LATE                    ↵

                                                                            ↵

     101 KIEL               KIEL                  TOO LATE                    ↵

                                                                            ↵

     102 KIEL               KIEL                  TOO LATE                    ↵

                                                                            ↵

                                                                            ↵

                                                                            ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit              Flip        +                        Canc ↵
```

6 Sample 4: Modes and User File

Task: Show all cruises which use a yacht of charter yacht type ATLANTIC 29 listed in order of cruise starting date. Show how many cruises there are in each month.

1. Present the data in a list

2. Present the data with one record on each page

3. Summarize the data

4. Create a user file containing the data

This transaction uses the Selection Editor, a control field, a system function and special break conditions to select the data required. The transaction uses different transaction modes to present data as required and to create a user file which contains the report data.

The steps in this transaction are performed in a logical order. The order in which the steps are carried out is different to the order in the previous sample transactions.

Transaction Specification

Primary File	*SAG-TOURS-E-CRUISE*
Display Fields	1: `CRUISE-ID` 2: `START-HARBOR` 3: `DESTINATION-HARBOR` 4: `START-DATE`
Selection Criteria	CHARTER-YACHT-TYPE = 'ATLANTIC 29'
Control Field	`START-DATE`
Special Break Conditions	First 'n' characters: 6
System Functions	Count `CRUISE-ID`

This section covers the following topics:

■ **To create the transaction SAMPLE4:**

To create the transaction SAMPLE4:

≫ **To Add a Transaction**

1   Issue the `ADD TRANSACTION SAMPLE4` command.

    The Add Transaction window appears.

2   Type Modes and User File in the `Description` field (optional).

≫ To Choose a File

The report requires data from the file *SAG-TOURS-E-CRUISE.*

1   Type *SAG-TOURS-E-CRUISE* in the `File Name` field.

2   Press Enter.

The Worksheet appears.

≫ To Choose Fields

The report requires data stored in the fields `CRUISE-ID`, `START-DATE`, `START-HARBOR` and `DESTINATION-HARBOR`.

■   Type `CRUISE-ID`, `START-DATE`, `START-HARBOR` and `DESTINATION-HARBOR` beneath each other in the Field Name column..

Or:

Choose the fields using the `Asterisk List` function as described in Step 3 in *Sample 1*.

≫ To Determine Display Sequence for Horizontal Output

1   Type 1 in the Sequence column next to the field `CRUISE-ID`.

2   Type 2 in the Sequence column next to the field `START-HARBOR`.

3   Type 3 in the Sequence column next to the field `DESTINATION-HARBOR`.

4   Type 4 in the Sequence column next to the field `START-DATE`.

≫ To Define Control Break Processing

The report requires all cruises which use a yacht of charter yacht type ATLANTIC 29 listed in order of cruise starting date. The number of cruises per month is to be displayed.

1   Type C1 in the `Sort/Control (S/C)` column next to the field `START-DATE`.

The cruises will be listed in order of their starting date.

The data in the field `START-DATE` is stored in the format YYYYMMDD where the first four characters show the year, the third (3rd) and fourth (4th) the month and the fifth (5th) and sixth (6th) the day. You can use the `Special Break Conditions` function to define a control break when the first six characters of the field `START-DATE` change.

2   Enter CB in the `Function (Func)` column next to the field `START-DATE`.

The Special Break Conditions window appears.

---

3   Enter 6 in the First 'n' Characters field.

```
11:14                        ***** Super Natural *****                    1998-02-18
SAMPLE4                           - Worksheet -                              SN3011
                                                                                 ↵

Ref DB   Field Name              +---------Special Break Conditions----------+
AA  1K   CRUISE-ID ............. ! Field: START-DATE                         ↵
!
AE  1K 2 START-DATE ............ !                                           ↵
!
AJ  1K   START-HARBOR .......... ! Format .. N                              ↵
!
AK  1K   DESTINATION-HARBOR .... ! Length .. 8                              ↵
!
BE       _____ !                                            ↵
!
BF            _____ ! Perform control break after change of the !
BG            _____ ! first 'n' field characters.              ↵
!
BH            _____ ! Do not enter any value if the complete   ↵
!
BI            _____ ! length should be taken.                  ↵
!
BJ            _____ !                                          ↵
!
BK            _____ ! First 'n' characters: 6_                 ↵
!
BL            _____ !                                          ↵
!
BM            _____ +----------------------------------------+
```

A control break is defined when the month value of the field START-BREAK changes.

4   Enter SF in the Function (Func) column next to the field CRUISE-ID.

     The Specify System Functions window appears.

5   Mark the field next to the field START-DATE and below the field Cnt.

```
11:14                       ***** Super Natural *****              1998-02-18
SAMPLE4                          - Worksheet -                         SN3011
                                                                          ↵

+------------------------Specify System Functions-------------------------+
! Field: CRUISE-ID                                                        ↵
!
!                                                           N    N    N ↵
!
! Level  Control Field                 Cnt Tot Sum Avg Max Min Cnt Avg Min !
! Grand  End of Report                  _   _   _   _   _   _   _   _   _ ↵
!
!    1   START-DATE                      X   _   _   _   _   _   _   _   _ ↵
!
!                                        _   _   _   _   _   _   _   _   _ ↵
!
!                                        _   _   _   _   _   _   _   _   _ ↵
!
!                                        _   _   _   _   _   _   _   _   _ ↵
!
!                                        _   _   _   _   _   _   _   _   _ ↵
!
!                                        _   _   _   _   _   _   _   _   _ ↵
!
!                                        _   _   _   _   _   _   _   _   _ ↵
!
!                                        _   _   _   _   _   _   _   _   _ ↵
!
!                                        _   _   _   _   _   _   _   _   _ ↵
!
!                                                                          ↵
!
+-------------------------------------------------------------------------+
```

6   Press Enter.

The system function `Count` is carried out for the field `CRUISE-ID` at each control break of the field `START-DATE`.

≫ **To Define Selection Criteria**

The report requires data for cruises of charter yacht type ATLANTIC 29.

1   Enter `SEL` in the command line.

The Selection Editor appears.

2   Enter CHARTER-YACHT-TYPE = 'ATLANTIC 29' in the editor area.

≫ **To Present the Data in a List**

■   Press PF11 (`RUN`).

The report is generated. Part of the resulting report is shown below:

```
11:21:10   CHARTER-YACHT-TYPE = 'ATLANTIC 29'                          1998-02-18
ISAMPLE4                                                                 3       ↵

                                                                                 ↵

     CRUISE-ID      START-HARBOR        DESTINATION-HARBOR  START-DATE            ↵

     ---------  --------------------  --------------------  ----------            ↵

                                                                                 ↵

          85 KIEL                  KIEL                       19910622            ↵

          99 KIEL                  KIEL                       19910629            ↵

         111 KIEL                  KIEL                       19910629            ↵
** Control Break (1) **                                                          ↵

    START-DATE :   19910629                                                       ↵

Cnt        9                                                                      ↵

                                                                                 ↵

         112 KIEL                  KIEL                       19910713            ↵

         113 KIEL                  KIEL                       19910720            ↵

          86 KIEL                  KIEL                       19910727            ↵
** Control Break (1) **                                                          ↵

    START-DATE :   19910727                                                       ↵

Cnt        3                                                                      ↵

                                                                                 ↵

         114 KIEL                  KIEL                       19910803            ↵

                                                                                 ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit                Flip         +                       Canc ↵
```

The field CHARTER-YACHT-TYPE now appears in the Field Name column of the Worksheet.

The Worksheet now has the following entries:

```
11:15                    ***** Super Natural *****                1998-02-18
SAMPLE4                       - Worksheet -                        SN3011
                                                                            ↵

Ref DB   Field Name                     Seq   S/C  Func Def  Info Del    ↵

AA  1K   CRUISE-ID ......................  1__   ___   >_   __   __   __   ↵

AE  1K 2 START-DATE ....................  4__   C1_   >_   __   __   __   ↵

AJ  1K   START-HARBOR ..................  2__   ___   __   __   __   __   ↵

AK  1K   DESTINATION-HARBOR ............  3__   ___   __   __   __   __   ↵

AP  1  2 CHARTER-YACHT-TYPE ............  ___   ___   __   __   __   __   ↵

BE       _____    ___   ___   __   __   __   __   ↵

BF       _____    ___   ___   __   __   __   __   ↵

BG       _____    ___   ___   __   __   __   __   ↵

BH       _____    ___   ___   __   __   __   __   ↵

BI       _____    ___   ___   __   __   __   __   ↵

BJ       _____    ___   ___   __   __   __   __   ↵

BK       _____    ___   ___   __   __   __   __   ↵

BL       _____    ___   ___   __   __   __   __   ↵

BM       _____    ___   ___   __   __   __   __   ↵
                                                                            ↵
                                                                            ↵

System functions have been updated                                          ↵

Command ===>                                                                 ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip   -     +          Sel   Run   Canc ↵
```

≫ To Present the Data with One Record on Each Page.

You use the transaction mode `Report Type VERTICAL LIST` to present data with one record on each page as the report requires.

1   Press PF8 (`EXIT`) to leave the report.

    The Worksheet appears.

2   Issue the `MODES` command.

    The Transaction Modes Reporting window appears.

3   Enter V in the `Report Type` field as in the following example:

```
11:39                        ***** Super Natural *****                    1998-02-18
SAMPLE4                           - Worksheet -                              SN3011
                                                                                 ↵

Ref DB    Field Name                     +----Transaction Modes Reporting-----+
AA  1K    CRUISE-ID .................... !                                     ↵
!
AE  1K 2  START-DATE ................... ! Data Selection .. F  Full-screen  ↵
!
AJ  1K    START-HARBOR ................. !                                     ↵
!
AK  1K    DESTINATION-HARBOR ........... ! Data Change ..... N  None          ↵
!
AP  1  2  CHARTER-YACHT-TYPE ........... !                                     ↵
!
BE        _____ ! Report Type ..... V  Vertical list !
BF        _____ ! Report Level .... D  Detailed      ↵
!
BG        _____ !                                     ↵
!
BH        _____ ! Destination ..... S  Screen        ↵
!
BI        _____ !                                     ↵
!
BJ        _____ ! Run Mode ........ O  Online         ↵
!
BK        _____ !                                     ↵
!
BL        _____ ! Batch printer ... 0  (0 - 31)       ↵
!
BM        _____ ! RJE available ... N  (Y/N)          ↵
!
                                        !                                     ↵
!
                                        +----------------------------------+
```

4   Press PF11 (RUN).

The report is generated. Part of the resulting report is shown below:

```
11:22:00  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                    1998-02-18
ISAMPLE4                                                      1       ↵


                                                                      ↵

CRUISE-ID ...................... 79                                   ↵

START-HARBOR ................... KIEL                                 ↵

DESTINATION-HARBOR ............. KIEL                                 ↵

START-DATE ..................... 19910330                            ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit               Flip          +                    Canc ↵
```

⟫ To Summarize the Data

You can just display the results of the system functions which are carried out at control breaks using the Report Level `SUMMARY`.

1   Press PF2 (`EXIT`) to leave the report.

     The Worksheet appears.

2   Issue the `MODES` command.

     The Transaction Modes Reporting window appears.

3   Enter L in the `Report Type` field.

4   Enter S in the `Report Level` field as in the following example:

```
11:39                     ***** Super Natural *****              1998-02-18
SAMPLE4                       - Worksheet -                        SN3011
                                                                      ↵

Ref DB    Field Name                    +----Transaction Modes Reporting-----+
AA  1K    CRUISE-ID ................... !                                    ↵
!
AE  1K 2  START-DATE .................. ! Data Selection .. F  Full-screen  ↵
!
AJ  1K    START-HARBOR ................ !                                    ↵
!
AK  1K    DESTINATION-HARBOR .......... ! Data Change ..... N  None         ↵
!
AP  1  2  CHARTER-YACHT-TYPE .......... !                                    ↵
!
BE        _____ ! Report Type ..... L  List         ↵
!
BF        _____ ! Report Level .... S  Summary      ↵
!
BG        _____ !                                    ↵
!
BH        _____ ! Destination ..... S  Screen       ↵
!
BI        _____ !                                    ↵
!
BJ        _____ ! Run Mode ........ O  Online       ↵
!
BK        _____ !                                    ↵
!
BL        _____ ! Batch printer ... 0  (0 - 31)     ↵
!
BM        _____ ! RJE available ... N  (Y/N)        ↵
!
                                       !                                    ↵
!
                                       +------------------------------------+
```

You cannot have Report Level SUMMARY with Report Type VERTICAL.

5   Press PF11 (RUN).

The report is generated. Part of the resulting report is shown below:

```
11:18:21  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                    1998-02-18
ISAMPLE4                                                        1     ↵

                                                                      ↵

    CRUISE-ID     START-HARBOR      DESTINATION-HARBOR  START-DATE      ↵

    --------- -------------------- -------------------- ----------      ↵

                                                                      ↵

** Control Break (1) **                                               ↵

    START-DATE :   19910330                                           ↵

Old       106 KIEL                 KIEL                 19910330        ↵

Cnt         3                                                         ↵

                                                                      ↵

** Control Break (1) **                                               ↵

    START-DATE :   19910427                                           ↵

Old        98 KIEL                 KIEL                 19910427        ↵

Cnt         4                                                         ↵

                                                                      ↵

** Control Break (1) **                                               ↵

    START-DATE :   19910525                                           ↵

Old        96 KIEL                 KIEL                 19910525        ↵

Cnt         5                                                         ↵

                                                                      ↵

                                                                      ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
         Print Exit                 Flip        +                    Canc ↵
```

The lines *Old* display the values in the last record found before the control break.

≫ **To Create a User File to Store the Report Data**

You can create a user file to contain the report data by using the Report Destination USERFILE.

1   Press PF2 (EXIT) to leave the report.

     The Worksheet appears.

2   Issue the MODES command.

     The Transaction Modes Reporting window appears.

3   Enter U in the Report Destination field as in the following example:

```
11:39                      ***** Super Natural *****              1998-02-18
SAMPLE4                         - Worksheet -                        SN3011
                                                                        ↵

Ref DB   Field Name                      +----Transaction Modes Reporting-----+
AA  1K   CRUISE-ID ................... !                                     ↵
!
AE  1K 2 START-DATE .................. ! Data Selection .. F  Full-screen  ↵
!
AJ  1K   START-HARBOR ................ !                                     ↵
!
AK  1K   DESTINATION-HARBOR .......... ! Data Change ..... N  None         ↵
!
AP  1  2 CHARTER-YACHT-TYPE .......... !                                     ↵
!
BE       _____ ! Report Type ..... L  List          ↵
!
BF       _____ ! Report Level .... S  Summary       ↵
!
BG       _____ !                                     ↵
!
BH       _____ ! Destination ..... U  User file     ↵
!
BI       _____ !                                     ↵
!
BJ       _____ ! Run Mode ........ O  Online        ↵
!
BK       _____ !                                     ↵
!
BL       _____ ! Batch printer ... 0  (0 - 31)      ↵
!
BM       _____ ! RJE available ... N  (Y/N)         ↵
!
                                      !                                     ↵
!
                                      +-----------------------------------+
```

4   Press Enter.

The Destination User File window appears with a default user file name and description as in the following example:

```
11:22                       ***** Super Natural *****              1998-02-18
SAMPLE4                          - Worksheet -                         SN3011
                                                                           ↵

Ref DB   Fi +--------------------Destination Userfile--------------------+
AA  1K    CR !                                                          ↵
!
AE  1K 2  ST ! Userfile name .. SAMPLE4_____                    ↵
!
AJ  1K    ST ! Description                                              ↵
!
AK  1K    DE !  CREATED BY: SAMPLE4 (98-02-18 11:28)_____ !
AP  1  2  CH !                                                          ↵
!
BE       __ +----------------------------------------------------------+
BF          _____ ! Report Level .... S  Summary ↵
!
```

5   Modify user file name and description (optional).

6   Press Enter.

The Key column has been added to the worksheet. You must now mark at least one alphanu-
meric field of a length between 1 and 29 to make it a key field in the user file.

7   Mark the Key column next to the field DESTINATION-HARBOR.

The Worksheet now has the following entries:

```
18:02                       ***** Super Natural *****              1998-02-26
SAMPLE4                          - Worksheet -                         SN3011
                                                                           ↵

Ref DB    Field Name                       Seq  S/C  Key  Func Def  Info Del
AA  1K    CRUISE-ID ......................  1__  ___   __   >_   __   __   __
AE  1K 2  START-DATE .....................  4__  C1_   __   >_   __   __   __
AJ  1K    START-HARBOR ...................  2__  ___   __   __   __   __   __
AK  1K    DESTINATION-HARBOR .............  3__  ___   X_   __   __   __   __
AP  1  2  CHARTER-YACHT-TYPE .............  ___  ___   __   __   __   __   __
BE        _____   ___  ___   __   __   __   __   __
BF        _____   ___  ___   __   __   __   __   __
BG        _____   ___  ___   __   __   __   __   __
BH        _____   ___  ___   __   __   __   __   __
BI        _____   ___  ___   __   __   __   __   __
BJ        _____   ___  ___   __   __   __   __   __
BK        _____   ___  ___   __   __   __   __   __
BL        _____   ___  ___   __   __   __   __   __
BM        _____   ___  ___   __   __   __   __   __
                                                                           ↵


                                                                           ↵

Fill in required definitions                                               ↵

Command ===>                                                               ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip   -     +          Sel   Run   Canc ↵
```

8   Press PF11 (RUN).

The report is generated. A user file is created. The user file now appears in the User File List screen.

For further information on user files, see *User Files* in the *User's Guide*.

7   Sample 5: Layout Editor

Task: Copy and change the report SAMPLE4 as follows:
1: Change the transaction modes for reporting.
2: Add a preface.
3: Underline the field headers.
4: Add text explaining the data shown at the control break.
5: Add grand total with explanatory text.

This transaction takes the report SAMPLE4 and uses the Layout Editor to make it more under-standable.

Line and field commands in the Layout Editor are shown using the period (.) as escape character. Use the escape character defined at your site. The escape character defined at your site is displayed in the delimiter information section of the Layout Editor.

Transaction Specification

Primary File	*SAG-TOURS-E-CRUISE*
Display Fields	1: `CRUISE-ID` 2: `START-HARBOR` 3: `DESTINATION-HARBOR` 4: `START-DATE`
Selection Criteria	CHARTER-YACHT-TYPE = 'ATLANTIC 29'
Control Field	`START-DATE`
Special Break Conditions	First 'n' characters: 6
System Functions	Count CRUISE-ID Grand Total Count CRUISE-ID

This section covers the following topics:

■ **Create the Transaction SAMPLE5**

Create the Transaction SAMPLE5

≫ **To Access the Transaction List Screen**

■ Issue the `TRANSACTION` command.

Or:

Select `Transactions` from the Main Menu.

Or:

If you are within a transaction, issue the `EXIT` or `CANCEL` commands until the Transaction List screen appears.

> **To Copy Transaction SAMPLE4**

1   Issue the `COPY TRANSACTION SAMPLE4` command.

    The Copy window appears.

2   Enter SAMPLE5 in the Target Object window.

    The transaction is copied to the name *SAMPLE5* and appears in the Transaction List screen.

3   Enter Layout Editor in the Description field next to SAMPLE5 (optional).

> **To Change Transaction Report Level and Destination**

1   Enter `MO` in the command column next to SAMPLE5.

    The Worksheet appears.

2   Issue the `MODES` command.

    The Transaction Modes Reporting window appears.

3   Enter D in the `Report Level` field.

4   Enter S in the `Destination` field.

5   Press Enter.

    The Transaction Modes Reporting window closes.

> **To Add Grand Total**

1   Enter SF in the `Function (Func)` column next to the field `CRUISE-ID`.

    The Specify System Functions window appears.

2   Enter any non-blank character in the Cnt column next to `Grand Control` field.

> **To Invoke NATURAL REPORT MANAGER**

■   Issue the `LAYOUT` command. You can abbreviate this to `LAY`.

    A default layout is generated from the transaction specification.

    The Layout Overview screen appears:

```
15:20                     *** NATURAL REPORT MANAGER ***              1998-02-26
Layout LSAMPLE5                 - Layout Overview -                      NRMPAGE
                                                                              ↵

                   +-----------------------------------+                      ↵

                   I               Title             I                        ↵

                   +-----------------------------------+                      ↵

                   +-----------------------------------+                      ↵

                   I               Header            I                        ↵

                   +-----------------------------------+                      ↵

                   +-----------------------------------+                      ↵

                   I               List              I                        ↵

                   I                                 I                        ↵

                   +-----------------------------------+                      ↵

                   +-----------------------------------+                      ↵

                   I               Group             I                        ↵

                   I                                 I                        ↵

                   I              1 10               I                        ↵

                   I                                 I                        ↵

                   I                                 I                        ↵

                   +-----------------------------------+                      ↵

                                                                              ↵

Command ===>                                                                  ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip                  Tech          Canc ↵
```

You are now using the product Natural Report Manager.

The Title element contains the standard title for your site. The List element contains the fields you have selected to be displayed.

> **To Add Preface**

1   Issue the EDIT PREFACE command.

    The Layout Editor appears. The editor area is empty.

2   Type text for a preface in the editor area as shown below:

    Do not type in the first column of the editor area as this is reserved for delimiters.

```
17:16                  *** NATURAL REPORT MANAGER ***              1998-02-26
Layout LSAMPLE5                - Layout Editor -                      NRMEDIT
                                                              More:     + >
  Transaction Fields                    Delimiter Class     Attrib.  Color  ↵

1 CRUISE-ID                   N8.0      Blank     Text      Default          ↵

2 CRUISE-TYPE                 A1        _         Text      Intens.          ↵

3 CRUISE-STATUS               A1        (         Output    Default          ↵

. START                       *G1       )         Output    Intens.          ↵

4 START-DATE                  N8.0                                           ↵

5 START-TIME                  N6.0      Escape Char. = ,   Header Char. = &
Top   ---010---+----+----+---030- ( Preface ) ---050---+----+----+---070--- Typ
                                                                            Pre
  PREFACE                                                                   Pre
                                                                            Pre
  This transaction uses data from the file SAG-TOURS-E-CRUISE. The          Pre
  report shows cruise IDs, start harbor, destination harbor and             Pre
  starting date for cruises which use yachts of type Atlantic 29.           Pre
  The data is sorted according to cruise starting date.                     Pre
  At the end of each month, the number of cruises in that month is          Pre
  shown. The total number of cruises is shown at the end of the             Pre
                                                                            ↵

Command ===>                                                                ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc ↵
```

    Each text constant must be preceded by a delimiter of the class TEXT.

    The last word of the preface does not fit into the editor area shown.

3   Issue the ..I line command in the last line of text.

A line is inserted after the last line of text (you cannot see it).

4   Press PF8 to page forwards.

5   Enter report as the last word of the preface.

6   Press PF7 to page backwards.

The report requires that the word PREFACE be highlighted.

7   If you have a delimiter for intensified text, type it before the word Preface.

The delimiter for intensified text in the example is '_'.

≫ To Center the Text

1   Issue the ..C line command in the same line as the word PREFACE.

The word PREFACE is centered.

2   Issue the ..C* line command in the next line of text.

The line is centered and all the lines below are moved the same distance to the right but are not centered.

Because the Scan Right (>) function is available, you can see that the report is wider than the screen.

```
 Top   ---010---+----+----+---030- ( Preface ) ---050---+----+----+---070--- Typ
                                                                             Pre
                              _PREFACE                                       Pre
                                                                             Pre
       This transaction uses data from the file SAG-TOURS-E-CRUISE. The     Pre
       report shows cruise ID's, start harbor, destination harbor and       Pre
       starting date for cruises which use yachts of type Atlantic 29.      Pre
       The data is sorted according to cruise starting date.                Pre
       At the end of each month, the number of cruises in that month is     Pre
       shown. The total number of cruises is shown at the end of the        Pre
                                                                              ↵

 Command ===>                                                                 ↵

 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Set   Exit  Field Edit  Flip  -     +     Tech <     >     Canc ↵
```

You now need to enter two lines of blanks at the end of the Preface. Because you are at the end of the editor area, you must first create the lines.

3   Issue the ..R(2) line command at the beginning of the last line of text.

The last line of text is copied twice.

4   Overtype the two new text lines with blanks.

≫ To Underline Header

1   Issue the `EDIT HEADER` command.

The Header element appears in the editor area. The Header element contains the headers
currently defined for the output fields.

2   Type plus signs (+) under the header fields.

≫ To Add Text Explaining the Data at Control Breaks

1   Issue the `EDIT GROUP1` command.

The Group1 element appears in the editor area as follows:

```
All   ---010---+----+----+---030-- ( Group1 ) ---050---+----+----+---070--- Typ
 ** Control Break (1) **                                                     G1_
      START-DATE : )S00000000                                                G1_
 Cnt )S0000000                                                               G1_
                                                                             G1_
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
You are on the first page.                                                    ↵

Command ===>                                                                  ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc ↵
```

The Group1 element contains the information displayed at the (first) control break.

2   Overtype the line which contains the text ** Control Break (1) **with blanks.

3   Type the `.M` field command in the field)S00000000 next to the text `START-DATE`.

4   Position the cursor in the same line in column 050 (under 050 in the scale).

5   Press Enter.

The field is moved so it starts under the 050 in the scale.

6   Type the `.M` field command in the field `)S00000000` next to the text `Cnt`.

7   Position the cursor in the same line in column 050 (under 050 in the scale).

8   Press Enter.

     The field is moved so it starts under the 050 in the scale.

9   Type the `.D` field command in the field `START-DATE`.

     The field is deleted.

10   Overtype the colon (:) with a blank.

11   Type the text Last Starting Date: next to the first field `)S00000000` starting the text at column
     019.

12   Type the `.D` field command in the field `Cnt`.

     The field is deleted.

13   Type the text Number of Cruises this Month: next to the second field)S00000000 starting the
     text at column 019.

     The editor area now has the following contents:

```
 All   ---010---+----+----+---030-- ( Group1 ) ---050---+----+----+---070--- Typ
                                                                             G1_
                    Last starting date:             )S00000000              G1_
                     Number of Cruises this Month: )S0000000                  ↵
 G1                                                                           ↵
     ___

                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
                                                                              ↵

 Command ===>                                                                 ↵

 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc ↵
```

≫ **To Add Text Explaining the Data at the Grand Total**

1   Issue the `EDIT GROUP10` command.

     The Group10 element appears in the editor area as follows:

```
All   ---010---+----+----+---030- ( Group10 ) ---050---+----+----+---070--- Typ
 ** Grand Totals **                                                          G10
 Cnt )S0000000                                                               G10
                                                                             G10
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
 You are on the first page.                                                   ↵

 Command ===>                                                                 ↵

 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc ↵
```

The Group10 element contains the information displayed at the Grand Total.

2   Issue the ..D line command in the line which contains ** Grand Totals ** .

     The line is deleted.

3   Type the .M field command in the field)S00000000 next to the text Cnt.

4   Position the cursor in the same line at column 050.

5   Press Enter.

     The field is moved.

6   Enter the .D field command in the field Cnt.

     The field is deleted.

7   Enter the text Total Number of Cruises: next to the field)S00000000 starting the text at column
     019 (overtype the equals (=) sign).

```
All   ---010---+----+----+---030- ( Group10 ) ---050---+----+----+---070--- Typ
                  Total Number of Cruises:       )S0000000                  G10
                                                                            G10
                                                                            G10
                                                                            ___
                                                                            ___
                                                                            ___
                                                                            ___
                                                                            ___
                                                                            ___
                                                                             ↵

Command ===>                                                                 ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech  <     >     Canc ↵
```

≫ **To Test the Layout**

1   Issue the `TEST` command.

The whole layout appears as it would if the transaction were run except for that the output
fields and the standard title are filled with dummy data.

```
17:44:05  SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS 98-02-26
LSAMPLE5  SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS 1      ↵

          SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS       ↵

                                                                          ↵

                              PREFACE                                     ↵

                                                                          ↵


     This transaction uses data from the file SAG-TOURS-E-CRUISE. The     ↵

     report shows cruise ID's, start harbor, destination harbor and       ↵

     starting date for cruises which use yachts of type Atlantic 29.      ↵

     The data is sorted according to cruise starting date.                ↵

     At the end of each month, the number of cruises in that month is      ↵

     shown. The total number of cruises is shown at the end of the        ↵

     report.                                                              ↵

                                                                          ↵

                                                                          ↵


     CRUISE-ID     START-HARBOR      DESTINATION-HARBOR  START-DATE        ↵

     +++++++++     ++++++++++++      ++++++++++++++++++  ++++++++++        ↵

                                                                          ↵


            9 AbcDefGhijAbcDefGhij AbcDefGhijAbcDefGhij         9          ↵

            9 AbcDefGhijAbcDefGhij AbcDefGhijAbcDefGhij         9          ↵

                                                                          ↵

                                                                          ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit              Flip                              Canc ↵
```

2   Page through the layout to make sure that it is what you want.

≫ **To Look at Layout Overview Screen and Worksheet (Optional)**

1   Press PF2.

The Layout Overview screen appears:

```
11:35                    *** NATURAL REPORT MANAGER ***              1998-03-01
Layout LSAMPLE5                 - Layout Overview -                     NRMPAGE
                                                                          ↩

        +--------------------------------------------------------+        ↩

         I                          Title                       I         ↩

        +--------------------------------------------------------+        ↩

        +--------------------+  +--------------------------------+        ↩

         I          Preface   I  I              Header          I         ↩

         I                    I  +--------------------------------+        ↩

         I                    I  +--------------------------------+        ↩

         I                    I  I              List            I         ↩

         I                    I  I                              I         ↩

         I                    I  +--------------------------------+        ↩

         I                    I  +--------------------------------+        ↩

         I                    I  I              Group           I         ↩

         I                    I  I                              I         ↩

         I                    I  I              1 10            I         ↩

         I                    I  I                              I         ↩

         I                    I  I                              I         ↩

        +--------------------+  +--------------------------------+        ↩

                                                                          ↩

Command ===>                                                              ↩

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip              Tech              Canc ↩
```

The preface element you have created is now shown.

2   Press PF8.

The Worksheet appears:

```
 11:36                      ***** Super Natural *****                  1998-03-01
 SAMPLE5                          - Worksheet -                           SN3011
                                                                               ↵

 Ref DB    Field Name                       Seq   S/C  Func Def  Info Del    ↵

 AA  1K    CRUISE-ID .......................  L__   ___   >_   __   __   __     ↵

 AE  1K 2  START-DATE ......................  L__   C1_   >_   __   __   __     ↵

 AJ  1K    START-HARBOR ....................  L__   ___   __   __   __   __     ↵

 AK  1K    DESTINATION-HARBOR ..............  L__   ___   __   __   __   __     ↵

 AP  1  2  CHARTER-YACHT-TYPE ..............  ___   ___   __   __   __   __     ↵

 BI   V    *TIMX ...........................  L__   ___   __   __   __   __     ↵

 BJ   V    *DATX ...........................  L__   ___   __   __   __   __     ↵

 BK   V    *PROGRAM ........................  L__   ___   __   __   __   __     ↵

 BL   V    *PAGE-NUMBER ....................  L__   ___   __   __   __   __     ↵

 BM        _____  ___   ___   __   __   __   __     ↵

 BN        _____  ___   ___   __   __   __   __     ↵

 BO        _____  ___   ___   __   __   __   __     ↵

 BP        _____  ___   ___   __   __   __   __     ↵

 BQ        _____  ___   ___   __   __   __   __     ↵

                                                                               ↵

                                                                               ↵

 Layout has been successfully modified                                         ↵

 Command ===>                                                                  ↵

 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Next  Exit  Field Incl  Flip   -     +           Sel   Run   Canc ↵
```

There is an L in the Sequence (Seq) column next to fields used in layout elements. You cannot use the `Sequence (Seq)` column for these fields until you have deleted them from the layout element.

The system variables which are part of the standard title (`*TIMX`, `*DATX`, `*PROGRAM` and `*PAGE-NUMBER`) appear in the Field Name column and are marked with `V` in the Database Reference (DB) column.

≫ To Run the Transaction

■   Issue the `RUN` command. In Natural Report Manager, the `RUN` command is not assigned to PF11.

The report is generated. Some screens from the report are shown below:

```
17:50:22  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                    1998-02-26
ISAMPLE5                                                        1      ↵
                                                                       ↵
                                                                       ↵
                              PREFACE                                  ↵
                                                                       ↵
     This transaction uses data from the file SAG-TOURS-E-CRUISE. The  ↵
     report shows cruise ID's, start harbor, destination harbor and    ↵
     starting date for cruises which use yachts of type Atlantic 29.   ↵
     The data is sorted according to cruise starting date.             ↵
     At the end of each month, the number of cruises in that month is  ↵
     shown. The total number of cruises is shown at the end of the     ↵
     report.                                                           ↵
                                                                       ↵
                                                                       ↵
                                                                       ↵
                                                                       ↵
                                                                       ↵
                                                                       ↵
                                                                       ↵
                                                                       ↵
                                                                       ↵
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
         Print Exit               Flip        +                        Canc ↵
```

```
14:28:26  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                    1998-03-01
ISAMPLE5                                                         2      ↵

                                                                        ↵

    CRUISE-ID      START-HARBOR      DESTINATION-HARBOR  START-DATE      ↵

    +++++++++      ++++++++++++      ++++++++++++++++++  ++++++++++      ↵

                                                                        ↵

         79 KIEL                 KIEL                  19910330          ↵

         92 KIEL                 KIEL                  19910330          ↵

        106 KIEL                 KIEL                  19910330          ↵

                                                                        ↵

                Last starting date:                 19910330            ↵

                Number of Cruises this Month:        3                  ↵

                                                                        ↵

                                                                        ↵

                                                                        ↵

                                                                        ↵

                                                                        ↵

                                                                        ↵

                                                                        ↵

         80 KIEL                 KIEL                  19910406          ↵

        107 KIEL                 KIEL                  19910413          ↵

                                                                        ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
            Print Exit              Flip        +                      Canc ↵
```

```
17:51:14  CHARTER-YACHT-TYPE = 'ATLANTIC 29'                        1998-02-26
ISAMPLE5                                                            9     ↵


                                                                          ↵

      CRUISE-ID      START-HARBOR      DESTINATION-HARBOR  START-DATE
      +++++++++      ++++++++++++      ++++++++++++++++++  ++++++++++

                    Last starting date:                   19911026




                                                                          ↵

                    Number of Cruises this Month:       4                 ↵


                    Total Number of Cruises:           41



Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit                 Flip        +                   Canc ↵
    ↵
```

8   Sample 6: File Link

Task: Find both the name and type of the yacht in which a customer sailed on a cruise starting on March 9 1991. the customer is very tall and remembers that the yacht had head room of more than 1m95cm.

Information about cruise starting dates is stored in the file*SAG-TOURS-E-CRUISE*. Yacht names and technical specifications are stored in the file *SAG-TOURS-E-YACHT*. Because you need information from two files, you must link them using the `INCLUDE` command.

For further information on linking files, see *INCLUDE command* and *What is File Linking?* in Files in the *User's Guide*.

Super Natural searches the primary and secondary files as follows when the transaction is run:

1. A search is made in the *SAG-TOURS-E-CRUISE* file for all records which meet the selection criterion START-DATE = 19910309. The following records are found:

```
      SELECT
START-DATE = 19910309        START-DATE  ID-YACHT
                             ----------  --------
                             19910309      15
                             19910309      21
                             19910309      31
                             19910309      35
                             19910309      44
                             19910309     104
                             19910309     114
                             19910309     124
                             19910309     133
      SAG-                   19910309      16
     TOURS-                  19910309      22
    E-CRUISE                 19910309      30
                             19910309      73
                             19910309      79
                             19910309      85
                             19910309      97
                             19910309     105
                             19910309     110
```
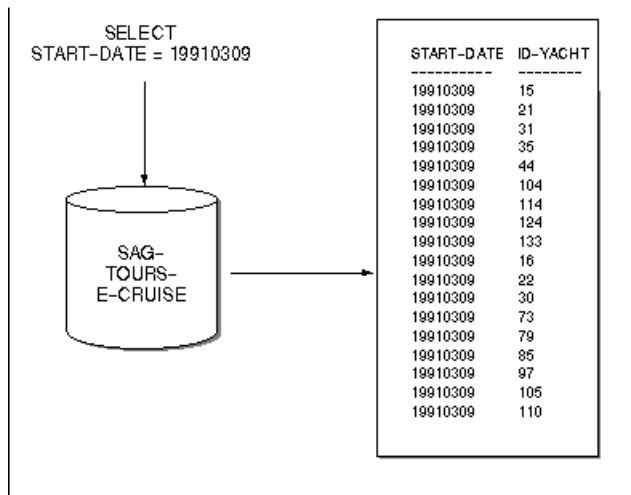
1. When a record is found in the primary file, Super Natural takes the value of its link field (`ID-YACHT`) and searches the secondary file for records whose link field (`YACHT-ID`) has the same value. The following records are found:
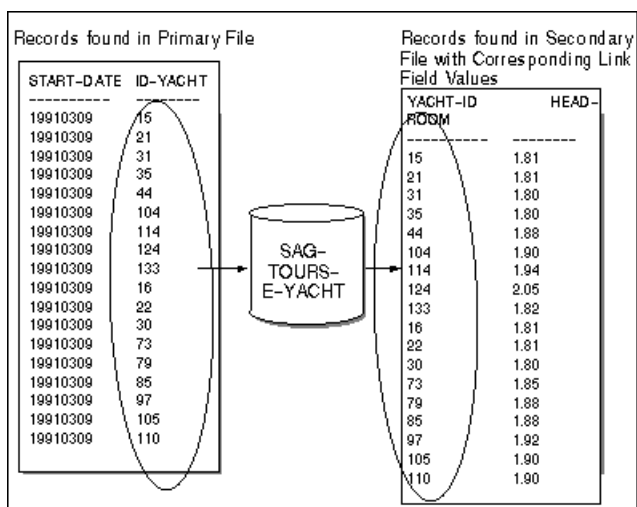
1. The selection criterion HEAD-ROOM > 1.95 is applied to the records found in the secondary file. The following record is found.
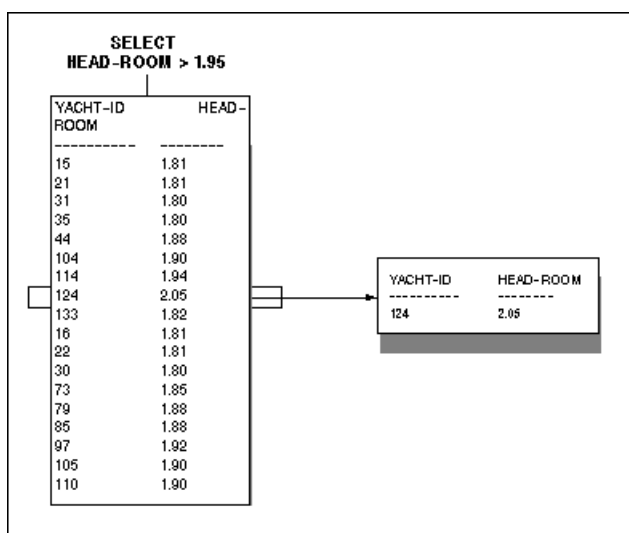
Transaction Specification

Primary File	*SAG-TOURS-E-CRUISE*
Link field in primary file	`ID-YACHT`
Secondary File	*SAG-TOURS-E-YACHT*
Link field in secondary file	`YACHT-ID`
Selection Criteria	START-DATE = 19910309 AND HEAD-ROOM > 1.95
Display fields	1: `YACHT-NAME` 2: `YACHT TYPE` 3: `START-DATE` 4: `HEAD-ROOM`

This section covers the following topics:

■ **Create the Transaction SAMPLE6**

Create the Transaction SAMPLE6

≫ **To Add a Transaction**

1   Issue the `ADD TRANSACTION SAMPLE6` command.

     The Add Transaction window appears.

2   Type File Link in the `Description` field (optional).

≫ **To Choose a Primary File**

The report requires data from the primary file *SAG-TOURS-E-CRUISE*.

1   Type *SAG-TOURS-E-CRUISE* in the `File Name` field.

2   Press Enter.

     The Worksheet appears.

≫ **To Choose Secondary File**

1   Issue the `INCLUDE` command.

     The Include Files window appears.

2   Enter *SAG-TOURS-E-YACHT* in the `Secondary File` field. You can also use the `Asterisk (*) List` function.

```
17:31                        ***** Super Natural *****              1998-05-13
SAMPLE6                           - Worksheet -                      SN3011
                                                                        ↵

Ref DB    Field Name    +-------------------Include Files-------------------+
BE          _____  !                                                ↵
!
BF          _____  ! Primary File ..... SAG-TOURS-E-CRUISE_____ !
BG          _____  ! Secondary File ... sag-tours-e-yacht_____ !
BH          _____  !                                                ↵
!
BI          _____  ! Add Lookup File .. _____ !
BJ          _____  ! Process Lookups .. _                           ↵
!
BK          _____  !                                                ↵
!
BL          _____  +------------------------------------------------+
BM          _____   __  __  _  _  _  _              ↵

BN          _____   __  __  _  _  _  _              ↵

BO          _____   __  __  _  _  _  _              ↵

BP          _____   __  __  _  _  _  _              ↵

BQ          _____   __  __  _  _  _  _              ↵

BR          _____   __  __  _  _  _  _              ↵

                                                                            ↵

                                                                            ↵

Fill in required definitions                                                ↵

Command ===>                                                                ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit              Flip                              Canc ↵
```

The Define File Link window appears.

3   Type ID-YACHT in the Link Field in Primary File field.

4   Type YACHT-ID in the Link Field in Secondary File field.

```
17:31                          ***** Super Natural *****                    1998-05-13
SAMPLE6                            - Worksheet -                                SN3011
                                                                                    ↩

Ref DB     Field Name   +-------------- +---------Define File Link---------+
BE            _____ !               !                                    ↩
!
BF            _____ ! Primary File . ! Primary File                      ↩
!
BG            _____ ! Secondary File !   SAG-TOURS-E-CRUISE              ↩
!
BH            _____ !                ! Link field in primary file        ↩
!
BI            _____ ! Add Lookup Fil !   id-yacht_____ !
BJ            _____ ! Process Lookup ! From position .. ...             ↩
!
BK            _____ !                !    to position .. ...             ↩
!
BL            _____ +-------------- !                                    ↩
!
BM       _____ ! Secondary File                         ↩
!
BN       _____ !   SAG-TOURS-E-YACHT                     ↩
!
BO       _____ ! Link field in secondary file           ↩
!
BP       _____ !   yacht-id_____ !
BQ       _____ !                                        ↩
!
BR       _____ +--------------------------------+
```

The fields ID-YACHT and YACHT-ID are used as link fields because they both have the format
N8 and contain comparable data. You can also use the Asterisk (*) List function to review
the field list for each file.

5   Press Enter.

     The Define File Link window closes.

6   Press Enter.

     The Include Files window closes.

> **To Choose Fields**

The report requires data stored in the fields YACHT-NAME, YACHT-TYPE, START-DATE and HEAD-ROOM.

■   Choose the fields as described in Step 3 of *Sample 1*.

≫ **To Determine Display Sequence for Horizontal Output**

1   Type 1 in the Sequence column next to the field YACHT-NAME.

2   Type 2 in the Sequence column next to the field YACHT-TYPE.

3   Type 3 in the Sequence column next to the field START-DATE.

4   Type 4 in the Sequence column next to the field HEAD-ROOM.

The Worksheet now looks like this:

```
 17:36                       ***** Super Natural *****              1998-05-13     ↵
 SAMPLE6                         - Worksheet -                          SN3011
                                                                           ↵

 Ref DB   Field Name                    Seq   S/C  Func Def  Info Del     ↵

 AE  1K 2  START-DATE ....................  3__   ___   __   __   __   __   ↵

 AL  1K    ID-YACHT ......................  ___   ___   __   __   __   __   ↵

 BE  2K    YACHT-ID ......................  ___   ___   __   __   __   __   ↵

 BF  2K    YACHT-NAME ....................  1__   ___   __   __   __   __   ↵

 BK  2K    YACHT-TYPE ....................  2__   ___   __   __   __   __   ↵

 BQ  2     HEAD-ROOM .....................  4__   ___   __   __   __   __   ↵

 BS        _____      ___   ___   __   __   __   __   ↵

 BT        _____      ___   ___   __   __   __   __   ↵

 BU        _____      ___   ___   __   __   __   __   ↵

 BV        _____      ___   ___   __   __   __   __   ↵

 BW        _____      ___   ___   __   __   __   __   ↵

 BX        _____      ___   ___   __   __   __   __   ↵

 BY        _____      ___   ___   __   __   __   __   ↵

 BZ        _____      ___   ___   __   __   __   __   ↵
                                                                           ↵
                                                                           ↵
 Fill in required definitions                                              ↵

 Command ===>                                                              ↵

 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Next  Exit  Field Incl  Flip  -     +           Sel   Run   Canc ↵
```

The 2s in the DB column indicate that the fields they are next to are in the secondary file.

> **To Define Selection Criteria**

1   Issue the `SELECTION` command. You can also abbreviate this command to `SEL`.

The Selection Editor appears.

The report requires information on a cruise which started on 9 March 1991 and used a yacht which had more head room than 1.95m.

2   Enter START-DATE = 19910309 AND HEAD-ROOM > 1.95 in the editor area.

```
17:37                          ***** Super Natural *****                    1998-05-13
SAMPLE6                          - Selection Editor -                          SNZUL-S
                                                                                    ↵

                                                                                    ↵


     1  < START-DATE = 19910309 AND HEAD-ROOM > 1.95                    >    1
     2  <                                                               >    2
     3  <                                                               >    3
     4  <                                                               >    4
     5  <                                                               >    5
     6  <                                                               >    6
     7  <                                                               >    7
     8  <                                                               >    8
     9  <                                                               >    9
    10  <                                                               >   10
    11  <                                                               >   11
    12  <                                                               >   12
    13  <                                                               >   13
    14  <                                                               >   14
    15  <                                                               >   15
                                                                                    ↵

SELECTION lines are correct                                                         ↵

Command ===>                                                                        ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Check Flip  -     +          Cont  Run   Canc ↵
```

> **To Run the Transaction**

1   Issue the `RUN` command.

Because the headers of the fields you have chosen for display are too wide to fit on the standard page, the Report Line Length window appears.

2   Mark the option Change to Report Type Vertical.

```
17:37                        ***** Super Natural *****                    1998-05-13
SAMPLE6                        - Selection Editor -                        SNZUL-S
                                                                               ↵

                      +---------------Report Line Length----------------+
     1  < START-DATE = 1 !                                               ↵
!
     2  <                ! The selected fields required a line size of .. 79 !
     3  <                ! The field headers required a line size of .... 82 !
     4  <                ! The available Online  line size at present ... 79 !
     5  <                  !                                              ↵
!
     6  <                  !   -  Enlarge Available Line Size             ↵
!
     7  <                  !   x  Change to Report Type Vertical List     ↵
!
     8  <                  !   _  Truncate Headers                        ↵
!
     9  <                  !   _  Remove Excess Fields                    ↵
!
    10  <                  !   _  Remove Excess Fields and Truncate Headers   ↵
!
    11  <                  !   _  Modify Transaction                      ↵
!
    12  <                  !                                              ↵
!
    13  <                  +------------------------------------------------+
```

3   Press Enter.

The report is generated. Part of the resulting report is shown below:

```
17:44:38  START-DATE = 19910309 AND HEAD-ROOM > 1.95              1998-05-13
ISAMPL6                                                          1     ↩

                                                                        ↩


YACHT-NAME ..................... CASABLANCA                              ↩

YACHT-TYPE ..................... PACIFIC 52                              ↩

START-DATE ..................... 19910309                                ↩

HEAD-ROOM ...................... 2.05                                    ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩

                                                                        ↩
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit                Flip         +    Posi <     >     Canc ↩
```

9   Sample 7: File Lookup

Task: List cruises starting in Korfu with their destination and starting date in order of starting date. List the type, name and length of the yachts which sail on these cruises.

Information on cruise starting harbor, starting date and cruise destination is stored in the file *SAG-TOURS-E-CRUISE*. Information on yacht length, type and name is stored in the file *SAG-TOURS-E-YACHT*. As each cruise can only have one value for destination, yacht length, name and type, you can take *SAG-TOURS-E-CRUISE* as the primary file and perform a lookup on the file *SAG-TOURS-E-YACHT* using the INCLUDE command.

For further information on file lookup, see *INCLUDE command* and *What is File Lookup?* in Defining Files in the *User's Guide*.

Super Natural searches the primary file and lookup file as follows when the transaction is run:

1. A search is made in the *SAG-TOURS-E-CRUISE* file for all records which meet the selection criterion START-HARBOR = 'KORFU'. The following records are found:
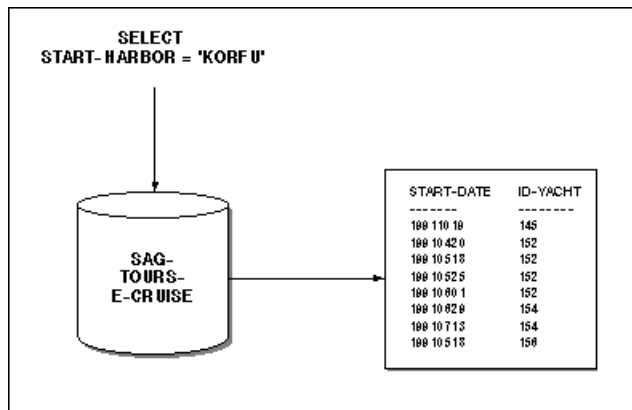
1. For each record found in the primary file, Super Natural searches the lookup file (*SAG-TOURS-E-CRUISE*) for the *first* record where the value of the lookup field (ID-YACHT) is the same as that of the link field in the primary file record. The following records are found:
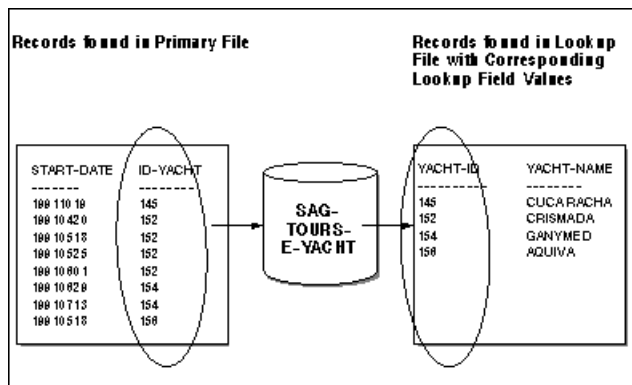
1. The records found in the primary file are returned and the desired information from the corres-
ponding records in the lookup file is displayed.

Transaction Specification

Primary File	*SAG-TOURS-E-CRUISE*
Lookup Field In Primary File	`ID-YACHT`
Lookup File	*SAG-TOURS-E-YACHT*
Lookup Field In Lookup File	`YACHT-ID`
Selection Criteria	START-HARBOR = 'KORFU'
Display Fields	1: `START-DATE` 2: `START-HARBOR` 3: `DESTINATION-HARBOR` 4: YACHT-TYPE 5: `YACHT-NAME` 6: `LENGTH`
Sort Field	`START-DATE`

This section covers the following topics:

■ **Create the Transaction SAMPL7**

Create the Transaction SAMPL7

≫ **To Add a Transaction**

1 Issue the `ADD TRANSACTION SAMPLE7` command.

The Add Transaction window appears.

2 Type File Lookup in the `Description` field (optional).

≫ **To Choose a Primary File**

The report requires data from the primary file *SAG-TOURS-E-CRUISE*.

1 Type *SAG-TOURS-E-CRUISE* in the `File Name` field.

2 Press Enter.

The Worksheet appears.

≫ To Choose Fields from Primary File

The report requires data stored in the primary file fields `START-DATE`, `START-HARBOR` and `DESTINATION-HARBOR`.

■   Choose the fields as described in Step 3 of *Sample 1*.

≫ To Choose Lookup File

1   Issue the `INCLUDE` command.

The Include Files window appears.

2   Enter *SAG-TOURS-E-YACHT* in the `Add File Lookup` field. You can also use the `Asterisk (*) List` function.

```
12:36                      ***** Super Natural *****              1998-05-24
SAMPLE7                         - Worksheet -                        SN3011
                                                                        ↵

Ref DB   Field Name   +-------------------Include Files-------------------+
AE  1K 2  START-DATE .. !                                               ↵
 !
AJ  1K    START-HARBOR  ! Primary File ..... SAG-TOURS-E-CRUISE_____ !
AK  1K    DESTINATION-H ! Secondary File ... _____ !
BE        _____ !                                              ↵
 !
BF        _____ ! Add Lookup File .. sag-tours-e-yacht_____ !
BG        _____ ! Process Lookups .. _                         ↵
 !
BH        _____ !                                              ↵
 !
BI        _____ +---------------------------------------------------+
```

The Define File Lookup window appears.

3   Type `ID-YACHT` in the `Lookup Link Field` field.

4   Type `YACHT-ID` in the `Lookup Field in Lookup File` field.

```
12:36                          ***** Super Natural *****                1998-05-24
SAMPLE7                            - Worksheet -                          SN3011
                                                                              ↵

Ref DB    Field Name   +- +---------------Define File Lookup---------------+
AE  1K 2  START-DATE .. !  !                                               ↵
!
AJ  1K    START-HARBOR !  ! Lookup link field                             ↵
!
AK  1K    DESTINATION-H !  !   id-yacht_____            ↵
!
BE        _____ !  ! Lookup File                                   ↵
!
BF        _____ !  !   SAG-TOURS-E-YACHT                           ↵
!
BG        _____ !  ! Lookup field in lookup file                   ↵
!
BH        _____ !  !   yacht-id_____            ↵
!
BI        _____ +- !                                               ↵
!
BJ        _____ ! Lookup (1:1) ..................... Y   (Y/N)   ↵
!
BK        _____ !   or enter N for lookup (1:n)                  ↵
!
BL        _____ ! Process even if no records found .. Y   (Y/N)  ↵
!
BM        _____ ! Search position ...................   3 (3 - 99) !
BN        _____ !                                               ↵
!
BO        _____ ! Select lookup display fields ...... X          ↵
!
                         !                                               ↵
!
                         +-------------------------------------------------+
```

The fields ID-YACHT and YACHT-ID are used as lookup fields because they both have the format N8 and contain the same data. You can also use the Asterisk (*) List function to review the field list for each file.

5   Press Enter.

Because the Select Lookup Display Fields field is marked by default, the Field Selection List window for the lookup file appears.

≫ **To Choose Fields from Lookup File**

The report requires data stored in the lookup file fields YACHT-TYPE, YACHT-NAME and LENGTH.

1   Mark the fields in the Field Selection List window.

```
12:36                       ***** Super Natural *****                 1998-05-24
SAMPLE7                          - Worksheet -                            SN3011
                                                                              ↵

Ref DB     Field Name    +---------------Field Selection List---------------+
AE  1K 2   START-DATE ..  !     Field Name                    Format  Info !
AJ  1K     START-HARBOR   !  x  YACHT-NAME                     A30       _  ↵
 !
AK  1K     DESTINATION-H  !  _  YACHT-BRANCH                   A1        _  ↵
 !
BE         _____   !  _  ID-CH-BASE                     A8        _  ↵
 !
BF         _____   !  _  ID-S-OWNER                     N8        _  ↵
 !
BG         _____   !  _  DID-DESCRIPTION                A8        _  ↵
 !
BH         _____   !  x  YACHT-TYPE                     A30       -  ↵
 !
BI         _____   !  x  LENGTH                         P3.2      _  ↵
 !
BJ         _____   !  _  WIDTH                          P3.2      _  ↵
 !
BK         _____   !  _  DRAFT                          P3.2      _  ↵
 !
BL         _____   !  _  SAIL-SURFACE                   P3        _  ↵
 !
BM         _____   !  _  MOTOR                          P3        _  ↵
 !
BN         _____   !  _  HEAD-ROOM                      P3.2      _  ↵
 !
BO         _____   !  _  BUNKS                          P3        _  ↵
 !
                          !                                               ↵
 !
                          +-------------------------------------------------+
```

2   Press Enter.

     The Field Selection List window closes.

3   Press Enter.

     The Define File Lookup window closes. The Include Files window now has a 1 next to the
     Process Lookups field to show that you have defined one lookup for the current transaction.

4   Press Enter.

5   The Worksheet reappears.

⟩ **To Determine Display Sequence for Horizontal Output**

1   Type 1 in the Sequence column next to the field `START-DATE`.

2   Type 2 in the Sequence column next to the field `START-HARBOR`.

3   Type 3 in the Sequence column next to the field `DESTINATION-HARBOR`.

4   Type 4 in the Sequence column next to the field `YACHT-TYPE`.

5   Type 5 in the Sequence column next to the field `YACHT-NAME`.

6   Type 6 in the Sequence column next to the field `LENGTH`.

⟩ **To Define Sort Criteria**

The report requires that you sort the list according to cruise starting date.

1   Type S1 in the `Sort/Control (S/C)` column next to the field `START-DATE`.

2   Press Enter.

The Worksheet now has the following entries:

```
13:22                     ***** Super Natural *****                  1998-05-24
SAMPLE7                        - Worksheet -                            SN3011
                                                                             ↵

Ref DB    Field Name                         Seq   S/C  Func Def  Info Del    ↵

AE  1K 2  START-DATE .....................   1__   S1_   __   __   __   __     ↵

AJ  1K    START-HARBOR ...................   2__   ___   __   __   __   __     ↵

AK  1K    DESTINATION-HARBOR .............   3__   ___   __   __   __   __     ↵

AL  1K    ID-YACHT .......................   ___   ___   __   __   __   __     ↵

BE  LK 3  YACHT-ID .......................   ___   ___   __   __   __   __     ↵

BF  L  3  YACHT-NAME .....................   5__   ___   __   __   __   __     ↵

BG  L  3  YACHT-TYPE .....................   4__   ___   __   __   __   __     ↵

BH  L  3  LENGTH .........................   6__   ___   __   __   __   __     ↵

BI        _____       ___   ___   __   __   __   __     ↵

BJ        _____       ___   ___   __   __   __   __     ↵

BK        _____       ___   ___   __   __   __   __     ↵

BL        _____       ___   ___   __   __   __   __     ↵

BM        _____       ___   ___   __   __   __   __     ↵

BN        _____       ___   ___   __   __   __   __     ↵

                                                                             ↵

                                                                             ↵

Fill in required definitions                                                 ↵

Command ===>                                                                 ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip   -     +          Sel   Run   Canc ↵
```

The 'L's in the Database (DB) column indicate that the fields next to them are in the lookup file.

Note that the Sequence (Seq), Sort/Control (S/C), Function (Func) and `Delete` (Del) columns are protected for the field `YACHT-ID` which is the lookup field in the lookup file.

> **To Define Selection Criteria**

1   Issue the `SELECTION` command. You can also abbreviate this command to `SEL`.

    The Selection Editor appears.

    The report requires information on cruises which start in Korfu.

2   Enter START-HARBOR = 'KORFU' in the editor area.

```
13:23                         ***** Super Natural *****                  1998-05-24
SAMPLE7                          - Selection Editor -                       SNZUL-S
                                                                                 ↵


                                                                                 ↵


      1  < START-HARBOR = 'KORFU'                                    >    1
      2  <                                                           >    2
      3  <                                                           >    3
```

> **Note:** You cannot define selection criteria for fields contained in the lookup file.

> **To Run the Transaction**

1   Issue the `RUN` command.

    Because the fields and the field headers you have chosen for display are too wide to fit on the standard page, the Report Line Length window appears.

2   Mark the option Enlarge Available Line Size.

```
13:23                          ***** Super Natural *****                    1998-05-24
SAMPLE7                          - Selection Editor -                        SNZUL-S
                                                                                   ↵

                        +----------------Report Line Length----------------+
      1  < START-HARBOR  !                                                         ↵
!
      2  <               ! The selected fields required a line size of .. 121 !
      3  <               ! The field headers required a line size of .... 122 !
      4  <               ! The available Online  line size at present ... 79 ↵
!
      5  <               !                                                    ↵
!
      6  <               !   x   Enlarge Available Line Size                  ↵
!
      7  <               !   _   Change to Report Type Vertical List          ↵
!
      8  <               !   _   Truncate Headers                             ↵
!
      9  <               !   _   Remove Excess Fields                         ↵
!
     10  <               !   _   Remove Excess Fields and Truncate Headers    ↵
!
     11  <               !   _   Modify Transaction                           ↵
!
     12  <               !                                                    ↵
!
     13  <               +----------------------------------------------------+
```

3   Press Enter.

The report is generated. Part of the resulting report is shown below:

```
13:24:51  START-HARBOR = 'KORFU'                              1998-05-24
ISAMPLE7                                                      1      ↵


                                                                    ↵

START-DATE     START-HARBOR      DESTINATION-HARBOR            YACHT-TYPE   ↵


---------- ------------------ ------------------ ----------------------------
                                                                    ↵

 19910420 KORFU              KEFALONIA          MIKADO 56            ↵

 19910518 KORFU              KORFU              MIKADO 56            ↵

 19910518 KORFU              REGGIO DI CALABRIA 15-M-STEILGAFFELSCHONER ↵

 19910525 KORFU              KORFU              MIKADO 56            ↵

 19910601 KORFU              KEFALONIA          MIKADO 56            ↵

 19910629 KORFU              KORFU              FIRST 38 S           ↵

 19910713 KORFU              ZAKYNTHOS          FIRST 38 S           ↵

 19911019 KORFU              KALAMATA           SKORPION III         ↵

                                                                    ↵

                                                                    ↵

                                                                    ↵

                                                                    ↵

                                                                    ↵

                                                                    ↵

                                                                    ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit                Flip         +    Posi  <    >    Canc ↵
```

4   Use PF11 and PF10 to shift to the left and right in the report.

5   Use PF9 to position the field at cursor position to the left-hand side of the screen.

10   Sample 8: Dynamic Input Fields

Task: Find the start date, end date and number of bunks of cruises whose start harbor begins with D or E and for cruises whose start harbor begins with U, V or W.

This transaction uses dynamic input fields to enable you to view different ranges of data each time you run it. The transaction uses the Layout Editor to show the range you are currently viewing in the title of the report.

Transaction Specification

Primary File	*SAG-TOURS-E-CRUISE*
Display Fields	1: `START-HARBOR` 2: `START-DATE` 3: `END-DATE` 4: `BUNK-NUMBER`
Dynamic Input Fields	`HARBOR1` `HARBOR2`
Selection Criteria	START-HARBOR = HARBOR1 THRU HARBOR2

This section covers the following topics:

■ **Create the Transaction SAMPLE8**

Create the Transaction SAMPLE8

≫ **To Add a Transaction**

1 Issue the `ADD TRANSACTION SAMPLE8` command.

The Add Transaction window appears with the transaction name already entered in the `Transaction ID` field.

2 Type the description Dynamic Input Fields in the `Description` field (optional).

≫ **To Choose File**

The report requires data from the file *SAG-TOURS-E-CRUISE.*

1 Type the file name *SAG-TOURS-E-CRUISE* in the `File Name` field. You can alternatively use the `Asterisk (*) List` function.

2 Press Enter.

The Worksheet appears.

> **To Choose Fields**

The report requires data stored in the fields START-HARBOR, START-DATE, END-DATE and BUNK-NUMBER.

1   Enter an asterisk (*) in the first position of the Field Name column.

     The Field Selection List window appears.

2   Mark the fields START-HARBOR, START-DATE, END-DATE and BUNK-NUMBER.

     You must use PF2 to page forward to BUNK-NUMBER.

```
16:10                       ***** Super Natural *****              1998-03-15
SAMPLE8                          - Worksheet -                        SN3011
                                                                          ↵

Ref DB    Field Name    +---------------Field Selection List---------------+
BE        *_____ !    Field Name                    Format   Info !
BF        _____  !  _ ID-SUCCESSOR                   N8        __  ↵
!
BG        _____  !  _ CHARTER-CRUISE                 *G1       __  ↵
!
BH        _____  !  _ CHARTER-YACHT-TYPE             A30       __  ↵
!
BI        _____  !  _ ID-CHARTER-BASE                A8        __  ↵
!
BJ        _____  !  _ SAILING-CRUISE                 *G1       __  ↵
!
BK        _____  !  _ ID-SKIPPER                     N8        __  ↵
!
BL        _____  !  _ CRUISE-PRICE                   P10.3     __  ↵
!
BM        _____  !  x BUNK-NUMBER                    P3        __  ↵
!
BN        _____  !  _ SAILOR                         *G2       __  ↵
!
BO        _____  !  _ AGE                            P2        __  ↵
!
BP        _____  !  _ NAME                           A30       __  ↵
!
BQ        _____  !  _ EXPERIENCE                     A1        __  ↵
!
BR        _____  !  _ LANGUAGES                      A3        __  ↵
!
                        !                                                 ↵
!
                   +More: - +----------------------------------------------+
                                                                          ↵
```

3   Press Enter.

The fields appear in the Field Name column of the Worksheet.

You can also enter the names directly into the Field Name column.

≫ To Determine Display Sequence

1   Type 1 in the Sequence column next to the field START-HARBOR.

2   Type 2 in the Sequence column next to the field START-DATE.

3   Type 3 in the Sequence column next to the field END-DATE.

4   Type 4 in the Sequence column next to the field BUNK-NUMBER.

≫ To Define Selection Criteria

The report requires information for cruises with a range of start harbors. You must define two dynamic input fields in which you can enter the first value of the field START-HARBOR you want to see and the last value you want to see when the transaction is run.

1   Press PF10.

The SELECTION command is issued and the Selection Editor appears.

2   Enter START-HARBOR = in the editor area.

3   Press PF10.

The CONTINUE command is issued and the Value window appears.

4   Select Define Dynamic Input Field.

5   Press Enter.

The Define User Field window appears.

6   Type Start1 in the Name or Value field.

7   Overtype the existing entry in the Length field with 5.

```
17:15                        ***** Super Natural *****                    1998-03-15
SAMPLE8                         - Selection Editor -                        SNZUL-S
                                                                                ↵

                        +----------------Define User Field----------------+
     1  < START-HARBOR = ! Field:                                         ↵
  !
     2  <                  !                                                ↵
  !
     3  <                  ! Name or value .. start1_____ !
     4  <                  ! Format ......... A                           ↵
  !
     5  <                  ! Length ......... 5_                          ↵
  !
     6  <                  ! Dec. places .... _                           ↵
  !
     7  <                  ! Subfield of .... _____ !
     8  <                  ! Offset ......... ___                         ↵
  !
     9  <                  ! Dynamic input .. #                           ↵
  !
    10  <                  !                                               ↵
  !
    11  <                  +------------------------------------------------+
```

The `Dynamic Input` field is already marked.

8   Press Enter.

The field name `START1` appears in the first editor line.

9   Type the logical operator `THRU` after `START1`.

10   Press PF10.

The `CONTINUE` command is issued and the Value window appears.

11   Select Define Dynamic Input Field.

12   Press Enter.

The Define User Field window appears.

13   Type Start2 in the `Name or Value` field.

14   Overtype the existing entry in the Length field with 5.

15   Press Enter.

The Selection Editor has the following content:

```
17.46                      ***** Super Natural *****                1998-03-15
SAMPLE8                        - Selection Editor -                    SNZUL-S
                                                                             ↵


                                                                             ↵


       1  < START-HARBOR = START1 THRU START2                    >     1
       2  <                                                      >     2
       3  <                                                      >     3
       4  <                                                      >     4
       5  <                                                      >     5
```

> **Note:** You can also enter START-HARBOR =START1 THRU START2 directly in the editor
> area and use the CHECK command to prompt you through defining the dynamic input fields.

≫ To Edit the Title Element

1 Issue the LAYOUT command. You can abbreviate this command to LA.

  The Natural Report Manager Layout Overview screen appears:

```
10:36                    *** NATURAL REPORT MANAGER ***              1998-03-16
Layout LSAMPLE8               - Layout Overview -                        NRMPAGE
                                                                               ↵

                    +----------------------------------+                       ↵

                    I               Title            I                       ↵

                    +----------------------------------+                       ↵

                    +----------------------------------+                       ↵

                    I               Header           I                       ↵

                    I                                I                       ↵

                    +----------------------------------+                       ↵

                    +----------------------------------+                       ↵

                    I               List             I                       ↵

                    I                                I                       ↵

                    I                                I                       ↵

                    I                                I                       ↵

                    I                                I                       ↵

                    I                                I                       ↵

                    I                                I                       ↵

                    +----------------------------------+                       ↵

                                                                               ↵

Command ===>                                                                   ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip             Tech             Canc ↵
```

2   Position the cursor in the Title layout element.

3   Press PF9.

The Layout Editor appears with the default Title element in the editor area.

4   Enter the line command ..D3 in the first line of the editor area.

The editor area is now empty.

5   Position the cursor in information section A where the transaction fields are displayed.

6   Press PF2 until the fields *DATX and *TIMX are displayed.

```
11:50                    *** NATURAL REPORT MANAGER ***                 1998-03-16
Layout LSAMPLE8                   - Layout Editor -                        NRMEDIT
                                                                     More:       ↵
>
  Transaction Fields                      Delimiter Class    Attrib.  Color   ↵

1 START1                        A5        Blank    Text      Default          ↵

2 START2                        A5         _       Text      Intens.          ↵

3 *TIMX                         T          (       Output    Default          ↵

4 *DATX                         D          )       Output    Intens.          ↵

5 *PROGRAM                      A8                                            ↵

6 *PAGE-NUMBER                  P5.0     Escape Char. = .   Header Char. = &
All    ---010---+----+----+---030-- ( Title ) +---050---+----+----+---070--- Typ
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
                                                                             ___
                                                                              ↵

Command ===>                                                                  ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -     +     Tech <    >     Canc ↵
```

7   Type Run on at position 10 in the second editor line.

8   Type the output delimiter for default output - here the open bracket character (followed by the number 4to position the *DATX field after the text.

9   Press Enter.

10 Type at at position 26.

11 Type the output delimiter for default output - here the open bracket character (followed by the number 3to position the `*TIMX` field after the text.

12 Type the text Start harbors starting at position 10in the third editor line.

13 Position the field `Start1` with the output delimiter for intensified output - here the close bracket character)- at position 23.

14 Type the text up to but not including starting at position 30 in the third editor line.

15 Position the field `Start2` with the output delimiter for intensified output - here the close bracket character) - at position 53.

16 Enter the line command `..I` in the third line of the editor area to insert an empty line after the title text.

The editor area has the following content:

```
10:46                    *** NATURAL REPORT MANAGER ***              1998-03-17
Layout LSAMPLE8                  - Layout Editor -                       NRMEDIT
                                                                    More:       ↵
>
  Transaction Fields                      Delimiter Class    Attrib.  Color  ↵

1 CRUISE-ID                     N8.0      Blank     Text     Default         ↵

2 CRUISE-TYPE                   A1        _         Text     Intens.         ↵

3 CRUISE-STATUS                 A1        (         Output   Default         ↵

. START                        *G1       )         Output   Intens.         ↵

4 START-DATE                    N8.0                                         ↵

5 START-TIME                    N6.0      Escape Char. = .   Header Char. = &
All   ---010---+----+----+---030-- ( Title ) +---050---+----+----+---070--- Typ
                                                                            Ttl
        Run on(XXXXXXXX at(XXXXXXXX                                          Ttl
        Start harbors)XXXXX up to but not including)XXXXX                    Ttl
                                                                            Ttl
                                                                            ___
                                                                            ___
                                                                            ___
                                                                            ___
                                                                            ___
                                                                              ↵

Command ===>                                                                  ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Set   Exit  Field Edit  Flip  -       +    Tech  <     >     Canc
```

> **To Run the Transaction**

1   Press PF2.

    The Layout Overview screen appears.

2   Press PF8.

    The Worksheet appears:

```
15:16                      ***** Super Natural *****              1998-03-16
SAMPLE8                         - Worksheet -                         SN3011
                                                                         ↵

Ref DB   Field Name                      Seq   S/C  Func Def  Info Del   ↵

AE  1K 2  START-DATE ....................  L__   ___   __   __    __   __   ↵

AH  1K 2  END-DATE ......................  L__   ___   __   __    __   __   ↵

AJ  1K    START-HARBOR ..................  L__   ___   __   __    __   __   ↵

AU  1  2  BUNK-NUMBER ...................  L__   ___   __   __    __   __   ↵

BE  #     START1 ........................  L__   ___   __   __    __   __   ↵

BF  #     START2 ........................  L__   ___   __   __    __   __   ↵

BK  V     *DATX .........................  L__   ___   __   __    __   __   ↵

BL  V     *TIMX .........................  L__   ___   __   __    __   __   ↵

BM        _____        ___   __   __    __   __   ↵

BN        _____        ___   __   __    __   __   ↵

BO        _____        ___   __   __    __   __   ↵

BP        _____        ___   __   __    __   __   ↵

BQ        _____        ___   __   __    __   __   ↵

BR        _____        ___   __   __    __   __   ↵

                                                                         ↵

                                                                         ↵

Layout has been successfully modified                                    ↵

Command ===>                                                             ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip   -     +          Sel   Run   Canc ↵
```

You can now either save the transaction and execute it later or you can run it to see the report immediately.

3   Issue the RUN command. This command is allocated to PF11.

You can also issue the RUN command directly from the Layout Editor.

The Dynamic Input Value window appears:

```
15:16                        ***** Super Natural *****                    1998-03-16
SAMPLE8                           - Worksheet -                               SN3011
                                                                                  ↵

Ref DB    Field Name                            Seq    +-- Dynamic Input Value --+
AE  1K 2  START-DATE ....................       L__    ! Transaction:  ISAMPLE8 !
AH  1K 2  END-DATE ......................       L__     !                         ↵
!
AJ  1K    START-HARBOR ..................       L__     ! START1 .. _____         ↵
!
AU  1  2  BUNK-NUMBER ...................       L__     ! START2 .. _____         ↵
!
BE  #     START1 ........................       L__    +-------------------------+
```

4   Type D in the Start1 field.

5   Type F in the Start2 field.

This will find start harbors which begin with D or E. If there is a start harbor with the name F, it will also be displayed.

6   Press Enter.

The report is generated:

```
                                                                      ↵
        Run on 1998-03-17 at 11:45:03                                ↵

                                                                      ↵

        Start harbors D     up to but not including F                ↵

                                                                      ↵

   START-HARBOR      START-DATE END-DATE  BUNK-NUMBER                 ↵

-------------------- ---------- --------- -----------                 ↵

                                                                      ↵

DAKKAR                 19910818  19910921           5                ↵

DUBROVNIK              19910406  19910419           7                ↵

EL SALVADOR            19920412  19920425           4                ↵

ELBA                   19911012  19911025           6                ↵

ELBA                   19910915  19910928           4                ↵

ELBA                   19910907  19910920           6                ↵

ESPIRITO SANTO         19911020  19911109           5                ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
         Print Exit                Flip              +                Canc ↵
```

```
                                                                        ↵

        Run on 1998-03-17 at 11:45:03                                   ↵

                                                                        ↵

        Start harbors D     up to but not including F                   ↵

                                                                        ↵

    START-HARBOR     START-DATE END-DATE  BUNK-NUMBER                    ↵

-------------------- ---------- --------- -----------                   ↵

                                                                        ↵

 *** End of report ***                                                  ↵

                                                                        ↵

 Number of records processed: = 7                                       ↵
```

7   Press Enter.

The Worksheet appears.

8   Press PF11

The Dynamic Input Value window appears.

9   Type U in the Start1 field.

10 Type W in the Start2 field.

11 Press Enter.

The report is generated:

```
                                                                      ↵

      Run on 1998-03-17 at 11:58:04                                   ↵

                                                                      ↵

      Start harbors U    up to but not including W                    ↵

                                                                      ↵

    START-HARBOR       START-DATE END-DATE BUNK-NUMBER                ↵

------------------- ---------- --------- -----------                  ↵

                                                                      ↵

VALENCIA                19920516 19920529          4                  ↵

VALENCIA                19911005 19911018          6                  ↵

VILAMOURA               19920104 19920117          6                  ↵

VILAMOURA               19920215 19920228          6                  ↵

VILAMOURA               19920404 19920417          4                  ↵

VIRGIN ISLANDS          19920405 19920418          6                  ↵

VIRGIN ISLANDS          19920419 19920509          6                  ↵

VIRGIN ISLANDS          19910209 19910223          6                  ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

                                                                      ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
         Print Exit                Flip              +                      Canc
```

```
                                                                            ↵
        Run on 1998-03-17 at 11:58:04                                       ↵
                                                                            ↵
        Start harbors U     up to but not including W                       ↵
                                                                            ↵
   START-HARBOR     START-DATE END-DATE  BUNK-NUMBER                         ↵
-------------------- ---------- --------- -----------                        ↵
                                                                            ↵
 *** End of report ***                                                      ↵
                                                                            ↵
 Number of records processed: = 8                                           ↵
```

> **Note:** Notice the new data in the title.

11   Sample 9: RPC Service in Context Mode with Primary, Secondary and Lookup files

Task: Generate an RPC service based on the travelling information to process on your PC via Excel.

The RPC Generation is executed in Context mode.

Prerequisites

Your administrator has to set the Service Type of the Service Generation Options in you user profile to `R`.

If you Server is running under Natural Security, you have to set up your RPC example client to run this example correctly.

≫ **To set up the RPC sample client for Natural Security**

1   Execute the Program *USR1071P* from the system library *SYSEXT* in your Natural for Windows.

2   Fill the following fields in the appearing screens as follows:

   ■ Set `RPC Data` field to `X`

   ■ Set `Code` field to `T`

   ■ Set `User-ID` field to the Logon-ID of Natural Mainframe

   ■ Set `User ID's Password` field to the Password of Natural Mainframe

Transaction Specification

Primary File	*SAG-TOURS-E-YACHT*
Secondary File	*SAG-TOURS-E-CRUISE*
Link field in primary file	`YACHT-ID`
Link field in secondary file	`ID-YACHT`
Lookup File	*SAG-TOURS-E-PERSON*
Link field in secondary file	`ID-SKIPPER`
Link field in lookup file	`PERSON-ID`
Display Fields	1: `YACHT-NAME` 2: `YACHT-ID` 3: `START-DATE` 4: `START-HARBOR` 5: `DESTINATION-HARBOR` 6: `FIRST-NAME-1` 7: `SURNAME` 8: `COUNTRY`
Selection Criteria	YACHT-ID EQ 140 THRU 180 AND ID-SKIPPER GT 0

This section covers the following topics:

- **Create the Transaction SAMPLE9**
- **Generate the RPC Service**
- **Proceed the data on your PC**

Create the Transaction SAMPLE9

⟫ To Add a Transaction

1   Issue the `ADD TRANSACTION SAMPLE9` command.

    The Add Transaction window appears with the transaction name already entered in the `Transaction ID` field.

2   Type the description Context Mode with Primary, Secondary and Lookup Files in the `Description` field (optional).

⟫ To Choose Primary File

The report requires data from the file *SAG-TOURS-E-YACHT*.

1   Type the file name *SAG-TOURS-E-YACHT* in the File `Name` field. You can alternatively use the `Asterisk (*) List` function.

2   Press Enter.

    The Worksheet appears.

⟫ To Choose Secondary File

1   Issue the `INCLUDE` command

    The Include Files window appears.

2   Enter *SAG-TOURS-E-CRUISE* in the `Secondary File` field.

```
17:31                      ***** Super Natural *****              2000-10-13
SAMPLE9                        - Worksheet -                        SN3011
                                                                       ↵

Ref DB    Field Name   +------------------Include Files------------------+
BE           _____ !                                              ↵
!
BF           _____ ! Primary File ..... SAG-TOURS-E-YACHT _____ !
BG           _____ ! Secondary File ... sag-tours-e-cruise_____ !
BH           _____ !                                              ↵
!
BI           _____ ! Add Lookup File .. _____ !
BJ           _____ ! Process Lookups .. _                        ↵
!
BK           _____ !                                             ↵
!
BL           _____ +-------------------------------------------------+
BM           _____  __  __  __  __  __  __        ↵

BN           _____  __  __  __  __  __  __        ↵

BO           _____  __  __  __  __  __  __        ↵

BP           _____  __  __  __  __  __  __        ↵

BQ           _____  __  __  __  __  __  __        ↵

BR           _____  __  __  __  __  __  __        ↵

                                                                         ↵

                                                                         ↵

Fill in required definitions                                             ↵

Command ===>                                                             ↵

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        Exit                Flip                          Canc ↵
```

> **Note:** You can also use the `Asterisk (*) List` function.

The Define File Link window appears.

3   Type `YACHT-ID` in the `Link Field in Primary File` field.

4   Type `ID-YACHT` in the `Link Field in Secondary File` field.

```
17:31                    ***** Super Natural *****              2000-10-13
SAMPLE9                       - Worksheet -                        SN3011
                                                                       ↵

Ref DB    Field Name    +-------------- +----------Define File Link----------+
BE          _____ !                  !                               ↵
!
BF          _____ ! Primary File . ! Primary File                    ↵
!
BG          _____ ! Secondary File !   SAG-TOURS-E-YACHT             ↵
!
BH          _____ !                 ! Link field in primary file     ↵
!
BI          _____ ! Add Lookup Fil !   yacht-id_____ !
BJ          _____ ! Process Lookup ! From position .. ...            ↵
!
BK          _____ !                 !   to position .. ...            ↵
!
BL          _____ +-------------- !                                   ↵
!
BM          _____ ! Secondary File                     ↵
!
BN          _____ !   SAG-TOURS-E-CRUISE               ↵
!
BO          _____ ! Link field in secondary file       ↵
!
BP          _____ !   id-yacht_____ !
BQ          _____ !                                   ↵
!
BR          _____ +------------------------------------+
```

> **Note:** You can also use the `Asterisk (*) List` function to review the field list for each file.

5   Press Enter.

The Define File Link window closes.

6   Press Enter.

The Include Files window closes.

≫ **To Choose Lookup File**

1   Issue the `INCLUDE` command.

The Include Files window appears.

2   Enter *SAG-TOURS-E-PERSON* in the `Add Lookup File` field.

> **Note:** You can also use the `Asterisk (*) List` function.

The Define File Lookup window appears.

3   Type `ID-SKIPPER` in the `Lookup Link File` field.

4   Type `PERSON-ID` in the `Lookup Field in Lookup File`.

> **Note:** You can also use the `Asterisk (*) List` function to review the field list for each file.

5   Press Enter.

Because the `Select Lookup Display Fields` field is marked by default, the Field Selection List window for the lookup file appears.

6   Mark the fields `SURNAME`, `FIRST-NAME-1` and `COUNTRY` to select them.

≫ To Choose Fields

The report requires data stored in the fields `YACHT-ID`, `YACHT-NAME`, `START-DATE`, `START-HARBOR`, `DESTINATION-HARBOR`, `ID-YACHT`, `ID-SKIPPER`, `PERSON-ID`, `SURNAME`, `FIRST-NAME-1`, `COUNTRY`.

■   Choose the fields as described in Step 3 of *Sample 1*.

≫ To Determine Display Sequence

1   Type 1 in the Sequence column next to the field `YACHT-NAME`.

2   Type 2 in the `Sequence` column next to the field `YACHT-ID`.

3   Type 3 in the Sequence column next to the field `START-DATE`.

4   Type 4 in the Sequence column next to the field `START-HARBOR`.

5   Type 5 in the Sequence column next to the field `DESTINATION-HARBOR`.

6   Type 6 in the Sequence column next to the field `FIRST-NAME-1`.

7   Type 7 in the Sequence column next to the field `SURNAME`.

8   Type 8 in the Sequence column next to the field `COUNTRY`.

Now your worksheet looks as follows:

```
 18:27                    ***** SUPER NATURAL *****              2000-09-29
 SAMPLE9                       - Worksheet -                        SN3011

 Ref DB    Field Name                        Seq   S/C  Func Def  Info Del
 AA  1K    YACHT-ID ......................   2__   ___   __  __    __
 AB  1K    YACHT-NAME ....................   1__   ___   __  __    __
 AS  2K 2  START-DATE ....................   3__   ___   __  __    __
 AX  2K    START-HARBOR ..................   4__   ___   __  __    __
 AY  2K    DESTINATION-HARBOR ............   5__   ___   __  __    __
 AZ  2K    ID-YACHT ......................   ___   ___   __  __    __
 BG  2K 2  ID-SKIPPER ....................   ___   ___   __  __    __
 BS  LK 3  PERSON-ID .....................                   __    __
 BT  L  3  SURNAME .......................   7__   ___   __  __    __
 BU  L  3  FIRST-NAME-1 ..................   6__   ___   __  __    __
 BX  L  3  COUNTRY .......................   8__   ___   __  __    __
 BY           _____
 BZ           _____
 CA           _____



 Transaction SAMPLE9 successfully executed
 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Next  Exit  Field Incl  Flip    -     +          Sel   Run   Canc
```

≫ **To Define Selection Criteria**

The report requires information on the Yacht-IDs and the Skipper-IDs.

1   Press PF10.

     The SELECTION command is issued and the Selection Editor appears.

2   Enter YACHT-ID EQ 140 THRU 180 AND ID-SKIPPER GT 0 in the editor area.

     The Selection Editor has the following content:

```
18:19                        ***** SUPER NATURAL *****                    2000-09-29
SAMPLE9                        - Selection Editor -                         SNZUL-S


      1  < YACHT-ID EQ 140 THRU 180 AND ID-SKIPPER GT 0               >      1
      2  <                                                            >      2
      3  <                                                            >      3
      4  <                                                            >      4
      5  <                                                            >      5
      6  <                                                            >      6
      7  <                                                            >      7
      8  <                                                            >      8
      9  <                                                            >      9
     10  <                                                            >     10
     11  <                                                            >     11
     12  <                                                            >     12
     13  <                                                            >     13
     14  <                                                            >     14
     15  <                                                            >     15


Define selection lines or use CONTINUE
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Check Flip    -      +         Cont  Run   Canc
```

> **Note:** You can use the CHECK command to prompt you through defining the dynamic input fields.

≫ **To Run the Transaction**

1 Issue the RUN command. This command is allocated to PF11.

2 Press Enter.

   The report is displayed:

```
2000-09-29   YACHT-ID EQ 140 THRU 180 AND ID-SKIPPER GT 0                    1
18:25:10
ISAMPLE9
          YACHT-NAME               YACHT-ID  START-DATE    START-HARBOR        DESTI
----------------------------- --------- ---------- -------------------- ------

FLYING DUTCHMAN                    144   19911012 ELBA                   ALGHER
FLYING DUTCHMAN                    144    19911026 ALGHERO                PALMA
FLYING DUTCHMAN                    144   19911109 PALMA                  ANDRAI
FLYING DUTCHMAN                    144   19911123 ANDRAITX               ALICAN
FLYING DUTCHMAN                    144   19911207 ALICANTE               MALAGA
FLYING DUTCHMAN                    144   19911221 MALAGA                 VILAMO
FLYING DUTCHMAN                    144   19920104 VILAMOURA              HUELVA
FLYING DUTCHMAN                    144    19920118 HUELVA                 CADIZ
FLYING DUTCHMAN                    144   19920201 CADIZ                  VILAMO
FLYING DUTCHMAN                    144   19920215 VILAMOURA              HUELVA
FLYING DUTCHMAN                    144   19920229 HUELVA                 JOSE B
CUCA RACHA                         145   19911019 KORFU                  KALAMA
CUCA RACHA                         145    19911005 AQUILEIA               KORFU
CUCA RACHA                         145   19911102 KALAMATA               HERAKL
CUCA RACHA                         145   19911116 HERAKLEION             HERAKL

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit               Flip            +   Posi    <     >   Canc
```

```
2000-09-29   YACHT-ID EQ 140 THRU 180 AND ID-SKIPPER GT 0                   15
18:27:14
ISAMPLE9
          YACHT-NAME               YACHT-ID  START-DATE    START-HARBOR        DESTI
----------------------------- --------- ---------- -------------------- ------

 *** End of report ***

 Number of records processed: = 196
```

3   Press PF3.

The Worksheet appears:

```
18:27                    ***** SUPER NATURAL *****               2000-09-29
SAMPLE9                        - Worksheet -                        SN3011

Ref DB      Field Name                    Seq   S/C  Func Def   Info Del
AA  1K      YACHT-ID ......................  2__   ___   __   __     __
AB  1K      YACHT-NAME ....................  1__   ___   __   __     __
AS  2K 2    START-DATE ....................  3__   ___   __   __     __
AX  2K      START-HARBOR ..................  4__   ___   __   __     __
AY  2K      DESTINATION-HARBOR ............  5__   ___   __   __     __
AZ  2K      ID-YACHT ......................  ___   ___   __   __     __
BG  2K 2    ID-SKIPPER ....................  ___   ___   __   __     __
BS  LK 3    PERSON-ID .....................                    __     __
BT  L  3    SURNAME .......................  7__   ___   __   __     __
BU  L  3    FIRST-NAME-1 ..................  6__   ___   __   __     __
BX  L  3    COUNTRY .......................  8__   ___   __   __     __
BY          _____
BZ          _____
CA          _____


Transaction SAMPLE9 successfully executed
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip    -     +         Sel   Run   Canc
```

Generate the RPC Service

≫ **To generate the RPC Service for the transaction SAMPLE9**

1   Issue the command `GENERATE RPC` in the Worksheet of the transaction SAMPLE9 and press
    Enter.

    The following window appears:

```
 18:27                    ***** SUPER NATURAL *****            2000-09-29
 SAMPLE9                        - Worksheet -                      SN3011
                                    ↵
!-------------------------------------------!
 Ref DB    Field Name            !       RPC-Service Generation       ↵
   !
 AA  1K    YACHT-ID ................ !                                 ↵
   !
 AB  1K    YACHT-NAME .............. !   The RPC Service will be stored with  ↵
   !
 AS  2K 2  START-DATE .............. !      Object Name ..............       ↵
   !
 AX  2K    START-HARBOR ............ !       in Library ...............      ↵
   !
 AY  2K    DESTINATION-HARBOR ...... !     with Generation Mode ..... Context ↵
   !
 AZ  2K    ID-YACHT ................ !      and Result Record Limit .. 1092  ↵
   !
 BG  2K 2  ID-SKIPPER ............. !                                        ↵
   !
 BS  LK 3  PERSON-ID ............... !    _  Generate with these options     ↵
   !
 BT  L  3  SURNAME ................. !    X  Change options before generation ↵
   !
 BU  L  3  FIRST-NAME-1 ............ !    _  Modify Transaction              ↵
   !
 BX  L  3  COUNTRY ................. !-------------------------------------------!
 BY           _____
 BZ           _____
 CA           _____



 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                    Flip                                   Canc
```

2   Mark the option `Change options before generation` and press Enter.

The following window appears:

```
   19:49                        ***** SUPER NATURAL *****                   2000-10-17
   SAMPLE9                           - Worksheet -                          SN3011
                           !-------------------------------------------------!
   Ref DB    Field Name          !   RPC-Service - Modify Generation Options  ↵
    !
   AA  1K    YACHT-ID ...........  !                                           ↵
    !
   AB  1K    YACHT-NAME ........  !  RPC Service Object Name ........          ↵
    !
   AS  2K 2  START-DATE ........  !              Library ............          ↵
    !
   AX  2K    START-HARBOR .......  !                                           ↵
    !
   AY  2K    DESTINATION-HARBOR .  ! Generation Mode ................ C Context !
   AZ  2K     ID-YACHT ...........  !  Limit of Result Records ........ 1092___  ↵
    !
   BG  2K 2  ID-SKIPPER .........  ! (Max. possible Result Records .. 1092   ) ↵
    !
   BS  LK 3  PERSON-ID ..........  !-------------------------------------------!
   BT  L  3  SURNAME ............       !                                 !
   BU  L  3  FIRST-NAME-1 ............   ! _  Modify Transaction    !
   BX  L  3  COUNTRY ................    !-------------------------!
   BY          _____
   BZ          _____
   CA          _____



   Command ===>
   Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                    Flip                                    Canc
```

3   Specify the RPC Service Object Name RPCSMPL1 and the Library NSNSAMPL to generate
     the RPC Service.

4   Select Generation Mode Context.

5   Delete the Record Limit and press Enter to receive the recommended record limit for the
     generation.

6   Press Enter.

     The RPC Service is generated. You can view it by logging on to the respective library and
     choosing the RPC Service Object. You will find the description of the source in the *Administra-
     tion* documentation.

Proceed the data on your PC

Before you can work with the generated RPC Service, you have to set up your Natural environment and load the example data from the Documentation CD to your Natural for Windows environment. You will find the description how to set up your environment for the RPC Service in the *Setting up Super Natural* documentation.

1   Open your Natural for Windows.

2   Execute **User Libraries > NSNSAMPL > Dialogs > Menu** by using the `Execute` button in the symbol list.

The following dialog appears:
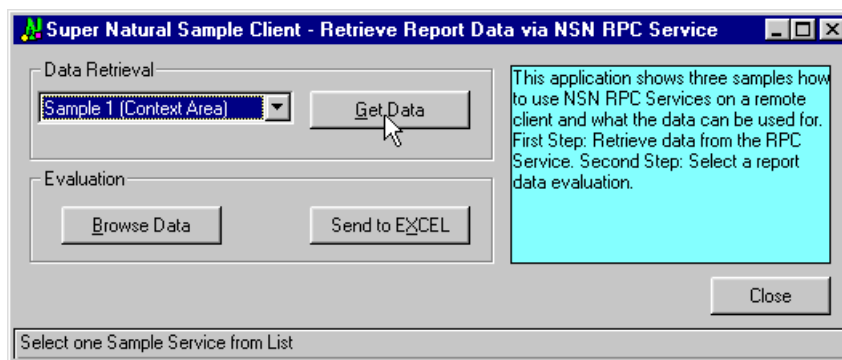
3   Select *Sample 1* (Context Area) in the `Data Retrieval` field.

4   Choose `Get Data` to load the sample data.

Now you can browse the data.

5   In order to proceed with this data on your PC, send it to Excel by selecting the `Send to Excel` button.

The data is sent to Excel and inserted into a table.

---

12 Sample 10: RPC Service in Context Mode with Dynamic Input

Task: Generate an RPC service based on travelling information by entering a start and end value. Then process the service on your PC via Excel.

This transaction uses dynamic input fields to enable you to view different ranges of data each time you run it. The RPC Generation is executed in Context mode.

Prerequisites

Your administrator has to set the Service Type of the Service Generation Options in you user profile to `R`.

If you Server is running under Natural Security, you have to set up your RPC example client to run this example correctly.

≫ **To set up the RPC sample client for Natural Security**

1   Execute the Program *USR1071P* from the system library *SYSEXT* in your Natural for Windows.

2   Fill the following fields in the appearing screens as follows:

■ Set `RPC Data` field to `X`

■ Set `Code` field to `T`

■ Set `User-ID` field to the Logon-ID of Natural Mainframe

■ Set `User ID's Password` field to the Password of Natural Mainframe

Transaction Specification

Primary File	*SAG-TOURS-E-PERSON*
Display Fields	1: `FIRST-NAME-1` 2: `SURNAME` 4: `STREET-NUMBER` 6: `ZIP-CODE` 7: `CITY` 9: `COUNTRY`
Sort Fields	S1: `COUNTRY` S2: `SURNAME`
Dynamic Input Fields	`NAME-START` `NAME-END`
Selection Criteria	SURNAME = NAME-START THRU NAME-END

This section covers the following topics:

■ **Create the Transaction SAMPLE10**

■ **Generate the RPC Service**

■ **Proceed the data on your PC**

Create the Transaction SAMPLE10

> **To Add a Transaction**

1 Issue the `ADD TRANSACTION SAMPLE10` command.

 The Add Transaction window appears with the transaction name already entered in the `Transaction ID` field.

2 Type the description Dynamic Input Fields in the Description field (optional).

> **To Choose File**

The report requires data from the file *SAG-TOURS-E-PERSON*.

1 Type the file name *SAG-TOURS-E-PERSON* in the `File Name` field. You can alternatively use the `Asterisk (*) List` function.

2 Press Enter.

 The Worksheet appears.

> **To Choose Fields**

The report requires data stored in the fields `SURNAME`, `FIRST-NAME-1`, `STREET-NUMBER`, `COUNTRY`, `ZIP-CODE` and `CITY`.

■ Choose the fields as described in Step 3 of *Sample 1*.

> **To Determine Display Sequence**

1 Type 1 in the Sequence column next to the field `FIRST-NAME-1`.

2 Type 2 in the Sequence column next to the field `SURNAME`.

3 Type 4 in the Sequence column next to the field `STREET-NUMBER`.

4 Type 6 in the Sequence column next to the field `ZIP-CODE`.

5 Type 7 in the Sequence column next to the field `CITY`.

6 Type 9 in the Sequence column next to the field `COUNTRY`.

⟩ **To Define Sort Order**

1 Type S1 in the S/C column next to the field COUNTRY.

2 Type S2 in the S/C column next to the field SURNAME.

⟩ **To Define Dynamic Input Fields**

1 Type NAME-START into the Field Name column and press Enter.

    The Define User Field window appears:

2 Fill in the required information as shown in the following screen:

```
 20:10                         ***** SUPER NATURAL *****               2000-10-17
 SAMPLE10                          - Worksheet -                           SN3011
                           ↵
!-------------------------------------------------------!
 Ref DB    Field Name     !                 Define User Field                  ↵
    !
 AE  1K 2  SURNAME ....... !  Field: NAME-START                                ↵
    !
 AF  1  2  FIRST-NAME-1 .. !                                                   ↵
    !
 AL  1  2  STREET-NUMBER . !  Name or value .. NAME-START_____   ↵
    !
 AM  1K 2  COUNTRY ....... !  Format ......... a                               ↵
    !
 AN  1K 2  ZIP-CODE ...... !  Length ......... 20_                             ↵
    !
 AO  1K 2  CITY .......... !  Dec. places .... _                               ↵
    !
 BI       NAME-START .... !  Subfield of .... _____  ↵
  !
 BJ        _____ !  Offset ......... ___                             ↵
    !
 BK        _____ !  Dynamic input .. #                               ↵
    !
 BL        _____ ↵
!-------------------------------------------------------!
 BM        _____
 BN        _____
 BO        _____
 BP        _____



 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help        Exit            Flip                                   Canc
```

3   Press Enter.

The Worksheet appears. The field NAME-START is inserted as a dynamic input field.

4   Proceed for the dynamic input field NAME-END just as NAME-START.

Now your Worksheet looks as follows:

```
20:18                          ***** SUPER NATURAL *****                  2000-10-17
A-SMPL2                            - Worksheet -                             SN3011

Ref DB    Field Name                            Seq   S/C  Func Def  Info Del
AE  1K 2  SURNAME .........................     2__   S2_   __   __   __
AF  1  2  FIRST-NAME-1 ....................     1__   ___   __   __   __
AL  1  2  STREET-NUMBER ...................     4__   ___   __   __   __
AM  1K 2  COUNTRY .........................     9__   S1_   __   __   __
AN  1K 2  ZIP-CODE ........................     6__   ___   __   __   __
AO  1K 2  CITY ............................     7__   ___   __   __   __
BI  #     NAME-START ......................     ___   ___   __   __   __
BJ  #     NAME-END ........................     ___   ___   __   __   __
BK        _____
BL        _____
BM        _____
BN        _____
BO        _____
BP        _____



Fill in required definitions
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip   -     +          Sel   Run   Canc
```

≫ **To Define Selection Criteria**

The report requires information on the field SURNAME. You must use two dynamic input fields in which you can enter the first value of the field SURNAME you want to see and the last value you want to see when the transaction is run.

1   Press PF10.

The SELECTION command is issued and the Selection Editor appears.

2   Enter SURNAME = NAME-START THRU NAME-END in the editor area.

The Selection Editor has the following content:

```
 10:08                      ***** SUPER NATURAL *****                 2000-10-04
 SAMPLE10                       - Selection Editor -                     SNZUL-S


       1  < SURNAME = NAME-START THRU NAME-END                       >     1
       2  <                                                          >     2
       3  <                                                          >     3
       4  <                                                          >     4
       5  <                                                          >     5
       6  <                                                          >     6
       7  <                                                          >     7
       8  <                                                          >     8
       9  <                                                          >     9
      10  <                                                          >    10
      11  <                                                          >    11
      12  <                                                          >    12
      13  <                                                          >    13
      14  <                                                          >    14
      15  <                                                          >    15


 Define selection lines or use CONTINUE
 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Next  Exit  Field Check Flip    -     +          Cont  Run   Canc
```

≫ **To Run the Transaction**

1   Issue the RUN command. This command is allocated to PF11.

2   Press Enter

     The following dialog appears:

```
10:08                        ***** SUPER NATURAL *****                   2000-10-04
SAMPLE10                        - Selection Editor -                       SNZUL-S
                              !-----------------------------------!
                              !         Dynamic Input Value        ↵
  !
    1  < SURNAME = NAME-START THRU NAM !   Transaction:  SAMPLE10          ↵
  !
    2  <                               !                                   ↵
  !
    3  <                               !  NAME-START .. g_____ !
    4  <                               !  NAME-END .... k_____ !
    5  <                               !                                   ↵
  !
    6  <                               !-----------------------------------!
     7  <                                                          >    7
     8  <                                                          >    8
     9  <                                                          >    9
    10  <                                                          >   10
    11  <                                                          >   11
    12  <                                                          >   12
    13  <                                                          >   13
    14  <                                                          >   14
    15  <                                                          >   15

Define selection lines or use CONTINUE

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit               Flip          +   Posi   <     >    Canc
```

3   Enter the Start and End value and press Enter.

     The report is displayed:

```
2000-10-04   SURNAME = NAME-START THRU NAME-END                              1
10:13:20
SAMPLE10
    FIRST-NAME-1            SURNAME            STREET-NUMBER      ZIP-CODE
------------------- ------------------- ------------------- ---------- -----

ANDREAS             GASSNER             KAERTNER STR. 9     7000       STUTT
PETRA               GOLDSTEIN           WALDWEG 8           8190       WOLFR
HEINZ               GRAF                SCHLOSSWEG 1        6100       GRIES
MARGARETHE          GROTH               BEETHOVENSTR. 34    6000       FRANK
JOPP                GROTHE              WIELANDSTR. 109     6000       FRANK
FLORIAN             GRUBER              DIEBURGERSTR. 54    6100       DARMS
ESTER               GRUENBERG           ROSENWEG 17         6103       GRIES
MARTHA              GUHLICH             THERESE GIESE STR 89 6450      HANAU
ROSWITHA            HAIBACH             POSTFACH 332        6450       HANAU
YASMIN              HASSEIN             DOMWEG 8            6000       FRANK
CORNELIA            HECK                MARIENSTRASSE 18    8000       MUENC
CLEMENS             HEILBROCK           OPELSTRASSE 49      6000       FRANK
GERHARD             HEINZELMANN         VIKTORIASTR. 43     6100       DARMS
JOHANNA             HELDMANN            DARMSTAEDTERWEG 34  6104       SEEHE
ANTON               HESCHMANN           MEERKATZSTR. 8      6000       FRANK

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit                  Flip            +  Posi   <     >   Canc
```

```
2000-10-04   SURNAME = NAME-START THRU NAME-END                             13
10:14:11
SAMPLE10
    FIRST-NAME-1            SURNAME            STREET-NUMBER      ZIP-CODE
------------------- ------------------- ------------------- ---------- -----

 *** End of report ***

 Number of records processed: = 178
```

4   Press PF3.

The Worksheet appears:

```
 10:15                      ***** SUPER NATURAL *****                   2000-10-04
 SAMPLE10                        - Worksheet -                            SN3011

 Ref DB   Field Name                            Seq   S/C  Func Def  Info Del
 AE  1K 2  SURNAME .........................    2__   S2_   __   __   __
 AF  1  2  FIRST-NAME-1 ....................    1__   ___   __   __   __
 AL  1  2  STREET-NUMBER ...................    4__   ___   __   __   __
 AM  1K 2  COUNTRY .........................    9__   S1_   __   __   __
 AN  1K 2  ZIP-CODE ........................    6__   ___   __   __   __
 AO  1K 2  CITY ............................    7__   ___   __   __   __
 BI   #    NAME-START ......................    ___   ___   __   __   __
 BJ   #    NAME-END ........................    ___   ___   __   __   __
 BK        _____
 BL        _____
 BM        _____
 BN        _____
 BO        _____
 BP        _____



 SELECTION successfully terminated
 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
       Help  Next  Exit  Field Incl  Flip   -     +          Sel   Run   Canc
```

Generate the RPC Service

≫ **To generate the RPC Service for the transaction SAMPLE10**

1 Issue the command GENERATE RPC in the Worksheet of the transaction SAMPLE10 and press Enter.

The following window appears:

```
  10:15                        ***** SUPER NATURAL *****                    2000-10-04
  SAMPLE10                           - Worksheet -                            SN3011
                            !--------------------------------------------!
  Ref DB    Field Name            !          RPC-Service Generation           ↵
      !
  AE  1K 2  SURNAME ................  !                                         ↵
      !
  AF  1  2  FIRST-NAME-1 ...........  ! The RPC Service will be stored with   ↵
      !
  AL  1  2  STREET-NUMBER ..........  !    Object Name ..............          ↵
      !
  AM  1K 2  COUNTRY ................  !    in Library ..............           ↵
      !
  AN  1K 2  ZIP-CODE ...............  !    with Generation Mode ..... Context ↵
      !
  AO  1K 2  CITY ...................  !    and Result Record Limit .. 1638    ↵
      !
  BI   #    NAME-START .............  !                                         ↵
      !
  BJ   #    NAME-END ...............  !  _  Generate with these options        ↵
      !
  BK        _____  !  X  Change options before generation  ↵
      !
  BL        _____  !  _  Modify Transaction                 ↵
      !
  BM        _____  !--------------------------------------------!
  BN        _____
  BO        _____
  BP        _____


  Command ===>
  Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                          Flip                              Canc
```

2   Mark the option Change options before generation and press Enter.

The following window appears:

```
 20:18                     ***** SUPER NATURAL *****               2000-10-17
 A-SMPL2                        - Worksheet -                          SN3011
                          !------------------------------------------------!
 Ref DB     Field Name     !   RPC-Service - Modify Generation Options   ↵
   !
 AE  1K 2   SURNAME ...........  !                                            ↵
   !
 AF  1  2   FIRST-NAME-1 .......  !  RPC Service Object Name ........ _____ ↵
   !
 AL  1  2   STREET-NUMBER ......  !              Library ............ _____ ↵
   !
 AM  1K 2   COUNTRY ............  !                                            ↵
   !
 AN  1K 2   ZIP-CODE ...........  ! Generation Mode ................ C  Context !
 AO  1K 2   CITY ...............  ! Limit of Result Records ........ 1638___  ↵
   !
 BI   #     NAME-START .........  ! (Max. possible Result Records .. 1638    ) ↵
   !
 BJ   #     NAME-END ...........  !------------------------------------------------!
 BK         _____              !                         !
 BL         _____      ! _  Modify Transaction  !
 BM         _____      !-------------------------!
 BN         _____
 BO         _____
 BP         _____




 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                     Flip                                  Canc
```

3   Specify the RPC Service Object Name RPCSMPL2 and the Library NSNSAMPL to generate the RPC Service.

4   Select Generation Mode Context.

5   Delete the Record Limit and press Enter to receive the recommended record limit for the generation.

6   Press Enter.

The RPC Service is generated. You can view it by logging on to the respective library and choosing the RPC Service Object. You will find the description of the source in the *Administration* documentation.
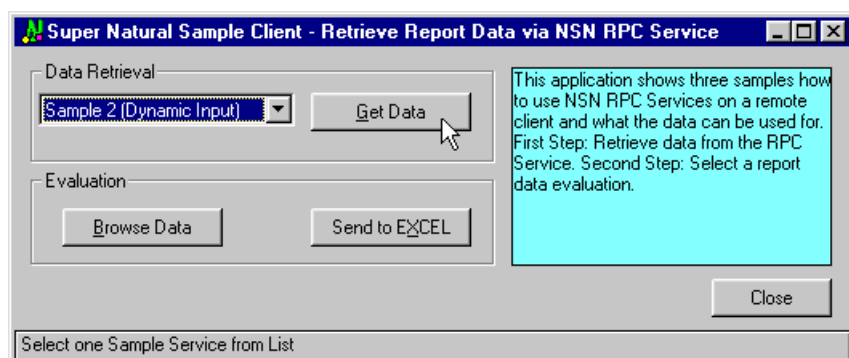
Proceed the data on your PC

> **To proceed the data on your PC**

Before you can work with the generated RPC Service, you have to set up your Natural environment and load the example data from the Documentation CD to your Natural for Windows environment. You will find the description how to set up your environment for the RPC Service in *Setting up Super Natural*.
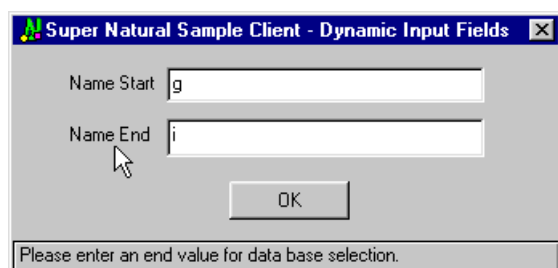
1   Open your Natural for Windows.

2   Execute **User Libraries > NSNSAMPL > Dialogs > Menu** by using the Execute button in the symbol list.

     The following dialog appears:

3   Select *Sample 2* (Dynamic Input) in the Data Retrieval field.

4   Choose Get Data to load the sample data.

     The following dialog appears:

5   Enter the start and end value as dynamic input.

6   Select OK.

The data is loaded from your mainframe environment and displayed on your PC where you can browse the data.

7   In order to proceed with this data on your PC, send it to Excel by selecting the `Send to Excel` button.

The selected data is sent to Excel and inserted into a table.

13 Sample 11: RPC Service in Direct Mode with Summary

Functionality

Task: Generate an RPC service based on the shipping data using the summary functionality to process on your PC via Excel.

This transaction uses the summary function to show cumulated data for statistical purposes. The RPC Generation is executed in Direct Mode.

Prerequisites

Your administrator has to set the Service Type of the Service Generation Options in you user profile to `R`.

If you Server is running under Natural Security, you have to set up your RPC example client to run this example correctly.

≫ **To set up the RPC sample client for Natural Security**

1   Execute the Program *USR1071P* from the system library *SYSEXT* in your Natural for Windows.

2   Fill the following fields in the appearing screens as follows:

- Set `RPC Data` field to `X`
- Set `Code` field to `T`
- Set `User-ID` field to the Logon-ID of Natural Mainframe
- Set `User ID's Password` field to the Password of Natural Mainframe

Transaction Specification

Primary File	*SAG-TOURS-E-CONTRACT*
Display System Functions	cnt `DATE-BOOKING` sum `PRICE` avg `PRICE` max `PRICE` min `PRICE` old `BOOK-MONTH`
Control Field	C1: `DATE-BOOKING`
Selection Criteria	DATE-BOOKING = 19910101 THRU 19911231 AND DATE-CANCELLATION EQ 0

This section covers the following topics:

- **Create the Transaction SAMPLE11**
- **Generate the RPC Service**
- **Proceed the data on your PC**

Create the Transaction SAMPLE11

> **To Add a Transaction**

■   Issue the `ADD TRANSACTION SAMPLE11` command.

The Add Transaction window appears with the transaction name already entered in the `Transaction ID` field.

> **To Choose File**

The report requires data from the file *SAG-TOURS-E-CONTRACT*.

1   Type the file name *SAG-TOURS-E-CONTRACT* in the `File Name` field. You can alternatively use the `Asterisk (*) List` function.

2   Press Enter.

The Worksheet appears.

> **To Choose Fields**

The report requires data stored in the fields `CONTRACT-ID`, `PRICE`, `DATE-BOOKING` and `DATE-CANCELLATION`.

■   Choose the fields as described in Step 3 of *Sample 1*.

> **To Create the User Field BOOK-MONTH**

1   Type `BOOK-MONTH` into the Field Name column and press Enter.

The Define User Field window appears:

2   Fill in the required information as shown in the following screen:

```
   20:41                      ***** SUPER NATURAL *****                2000-10-17
   SAMPLE11                          - Worksheet -                         SN3011
                                ↵
!----------------------------------------------------------!
  Ref DB   Field Name     !                  Define User Field               ↵
       !
  AA  1K    CONTRACT-ID ... !  Field: BOOK-MONTH                             ↵
       !
  AC  1     PRICE ......... !                                                ↵
       !
  AF  1K    DATE-BOOKING .. !  Name or value .. BOOK-MONTH_____   ↵
      !
  AG  1K    DATE-CANCELLATI !  Format ......... n                           ↵
       !
  AR        BOOK-MONTH_____ !  Length ......... 6 _                          ↵
       !
  AS        _____ !  Dec. places .... _                             ↵
       !
  AT        _____ !  Subfield of .... DATE-BOOKING_____   ↵
      !
  AU        _____ !  Offset ......... ___                           ↵
       !
  AV        _____ !  Dynamic input .. _                             ↵
       !
  AW        _____    ↵
!----------------------------------------------------------!
  AX        _____
  AY        _____
  AZ        _____
  BA        _____



   Command ===>
   Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
        Help        Exit             Flip                               Canc
```

3   Press Enter.

     The Worksheet appears. The field BOOK-MONTH is inserted as a user field.

≫ **To Create the Control Break**

■   Type C1 in the Control column next to the field DATE-BOOKING.

≫ **To Define the System Function**

1   Type SF in the Func column next to the field PRICE.

2   Press Enter.

The Specify System Functions screen appears.

3   Mark Sum, Avg, Max and Min next to the Control Field DATE-BOOKING.

4   Type SF in the Func column next to the field DATE-BOOKING.

5   Press Enter.

The Specify System Functions window appears.

6   Mark Cnt next to the Control Field DATE-BOOKING.

7   Press Enter.

The Worksheet appears.

≫ **To Determine Display Sequence**

■   Type 1 in the Sequence column next to the field BOOK-MONTH.

Now your worksheet looks as follows:

```
 10:46                      ***** SUPER NATURAL *****              2000-10-04
 SAMPLE11                        - Worksheet -                         SN3011

 Ref DB    Field Name                        Seq   S/C  Func Def  Info Del
 AA  1K    CONTRACT-ID ...................   ___   ___  __   __    __    __
 AC  1     PRICE ........................    ___   ___  >_   __    __
 AF  1K    DATE-BOOKING .................    ___   C1_  >_   __    __
 AG  1K    DATE-CANCELLATION ............    ___   ___  __   __    __
 AR  U     BOOK-MONTH ...................    1__   ___  __   __    __
 AS        _____
 AT        _____
 AU        _____
 AV        _____
 AW        _____
 AX        _____
 AY        _____
 AZ        _____
 BA        _____



 Enter "*" in Fieldname column to select fields or enter NEXT
 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Incl  Flip   -     +          Sel   Run   Canc
```

≫ **To Define Selection Criteria**

The report requires information on the Date of booking and cancellation.

1   Press PF10.

    The SELECTION command is issued and the Selection Editor appears.

2   Enter DATE-BOOKING = 19910101 THRU 19911231 AND DATE-CANCELLATION EQ 0 in
    the editor area.

    The Selection Editor has the following content:

```
10:49                     ***** SUPER NATURAL *****              2000-10-04
SAMPLE11                     - Selection Editor -                  SNZUL-S


    1  < DATE-BOOKING = 19910101 THRU 19911231                  >    1
    2  < AND DATE-CANCELLATION EQ 0                             >    2
    3  <                                                        >    3
    4  <                                                        >    4
    5  <                                                        >    5
    6  <                                                        >    6
    7  <                                                        >    7
    8  <                                                        >    8
    9  <                                                        >    9
   10  <                                                        >   10
   11  <                                                        >   11
   12  <                                                        >   12
   13  <                                                        >   13
   14  <                                                        >   14
   15  <                                                        >   15


Define selection lines or use CONTINUE
Command ===>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Next  Exit  Field Check Flip    -      +         Cont  Run   Canc
```

≫ **To Run the Transaction**

1   Issue the RUN command. This command is allocated to PF11.

2   Press Enter.

    The report is displayed.

```
2000-10-17   DATE-BOOKING = 19910101 THRU 19911231                                1
20:55:09     AND DATE-CANCELLATION EQ 0
SAMPLE11
     BOOK-MONTH
     ----------

** Control Break (1) **
     DATE-BOOKING :   19910127
Old      199101
Cnt       DATE-BOOKING =        100
Sum       PRICE =          415590.000
Avg       PRICE =            4155.900
Max       PRICE =           18700.000
Min       PRICE =            1360.000






Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit                  Flip            +                   Canc
```

3   Press PF3.

The Worksheet appears again.

Generate the RPC Service

≫ **To generate the RPC Service for the transaction SAMPLE11**

1   Issue the command `GENERATE RPC` in the Worksheet of the transaction SAMPLE11 and press
Enter.

The following window appears:

```
 10:56                      ***** SUPER NATURAL *****               2000-10-04
 SAMPLE11                        - Worksheet -                         SN3011
                               !------------------------------------------!
 Ref DB    Field Name         !          RPC-Service Generation          ↵
  !                           !                                          
 AA  1K    CONTRACT-ID .............  !                                  ↵
  !                           !                                          
 AC  1     PRICE ..................  ! The RPC Service will be stored with ↵
  !                           !                                          
 AF  1K    DATE-BOOKING ...........  !     Object Name ..............   ↵
  !                           !                                          
 AG  1K    DATE-CANCELLATION .......  !     in Library ...............  ↵
  !                           !                                          
 AR   U    BOOK-MONTH .............  !     with Generation Mode ..... Direct ↵
  !                           !                                          
 AS        _____   !     and Result Record Limit .. 5    ↵
  !                           !                                          
 AT        _____   !                                  ↵
  !                           !                                          
 AU        _____   !   _  Generate with these options    ↵
  !                           !                                          
 AV        _____   !   X  Change options before generation ↵
  !                           !                                          
 AW        _____   !   _  Modify Transaction           ↵
  !                           !                                          
 AX        _____   !------------------------------------------!
 AY        _____
 AZ        _____
 BA        _____




 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                    Flip                                 Canc
```

2   Mark the option Change options before generation and press Enter.

The following window appears:

```
 20:57                      ***** SUPER NATURAL *****               2000-10-17
 SAMPLE11                         - Worksheet -                        SN3011
                         !------------------------------------------------!
 Ref DB    Field Name       !  RPC-Service - Modify Generation Options  ↵
   !
 AA  1K    CONTRACT-ID .........  !                                          ↵
   !
 AC  1     PRICE ...............  !  RPC Service Object Name .......        ↵
   !
 AF  1K    DATE-BOOKING ........  !            Library ............        ↵
   !
 AG  1K    DATE-CANCELLATION ...  !                                          ↵
   !
 AR  U     BOOK-MONTH ..........  ! Generation Mode ................. D  Direct !
 AS        _____   !  Limit of Result Records ........ 5_____  ↵
   !
 AT        _____   !  (Max. possible Result Records .. 714     ↵
 ) !
 AU        _____   !------------------------------------------------!
 AV        _____        !                                    !
 AW        _____        !  _  Modify Transaction        !
 AX        _____        !------------------------------!
 AY        _____
 AZ        _____
 BA        _____




 Command ===>
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                                   Flip                                   Canc
```

3   Specify the RPC Service Object Name RPCSMPL3 and the Library NSNSAMPL to generate the
    RPC Service.

4   Select Generation Mode Direct.

5   Set the Record Limit to 5 and press Enter to limit the number of retrieved records.

6   Press Enter.

    The RPC Service is generated. You can view it by logging on to the respective library and
    choosing the RPC Service Object. You will find the description of the source in the *Administra-
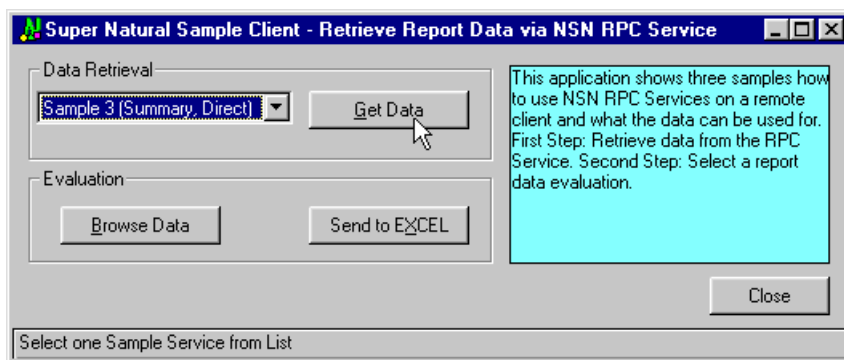   tion* documentation.

Proceed the data on your PC

> **To proceed the data on your PC**

Before you can work with the generated RPC Service, you have to set up your Natural environment and load the example data from the Documentation CD to your Natural for Windows environment. You will find the description how to set up your environment for the RPC Service in *Setting up Super Natural*.

1   Open your Natural for Windows.

2   Execute **User Libraries > NSNSAMPL > Dialogs > Menu** by using the `Execute` button in the symbol list.

    The following dialog appears:

3   Select *Sample 3* (Summary, Direct) in the `Data Retrieval` field.

4   Choose `Get Data` to load the sample data.

5   Select `OK`.

    The data is loaded from your mainframe environment and displayed on your PC where you can browse the data.

6   In order to proceed with this data on your PC, send it to Excel by selecting the `Send to Excel` button.

    The selected data is sent to Excel, inserted into a table and displayed as a chart.