software AG

Super Natural

Tutorial

Version 8.2.3

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Super Natural

Table of Contents

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 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)       !
                                    !                                  !
                                    +----------------------------------+
```

2   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'.

3   Sample 2: Worksheet

Task: List cruises sorted according to cruise starting date and show the cheapest cruise price available for each data and show 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:
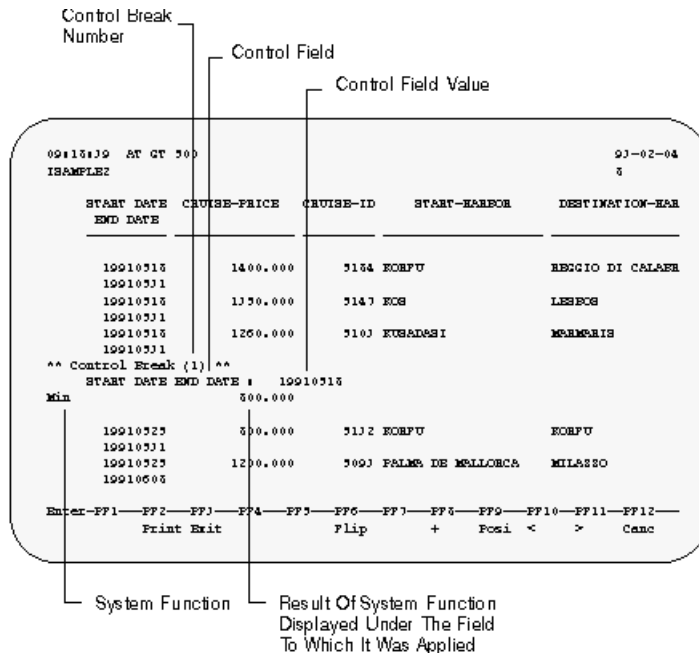
Because you chose the option `Enlarge Available Line Size`, the report is wider than the screen.

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.

4   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:
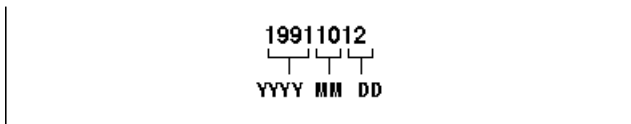
The report requires that the date be presented with the format DD.MM.YY. To do this, you must create three user fields from the field `START-DATE`: one with the year information, one with the month information and one with the day information. You then join the user fields together in the order day, month, year with periods (.) using the `Joining Fields (Concatenation)` function in the Calculation Editor as shown in the following diagram:
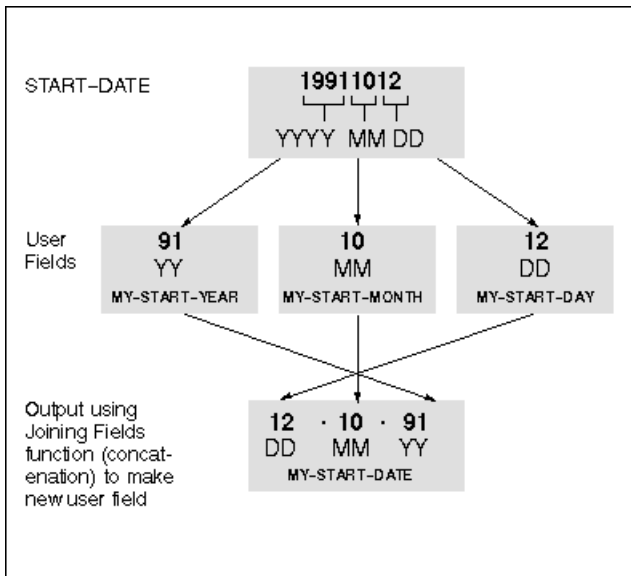
You then do the same for the field `END-DATE`.

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 ↵
```

5   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 ... O  (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 ... O  (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*.

6   **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 understandable.

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  SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS 98-02-26
LSAMPLE5  SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS 1     ↵

          SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS      ↵

                                                                         ↵

                                  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 ↵
     ↵
```

7   **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
```
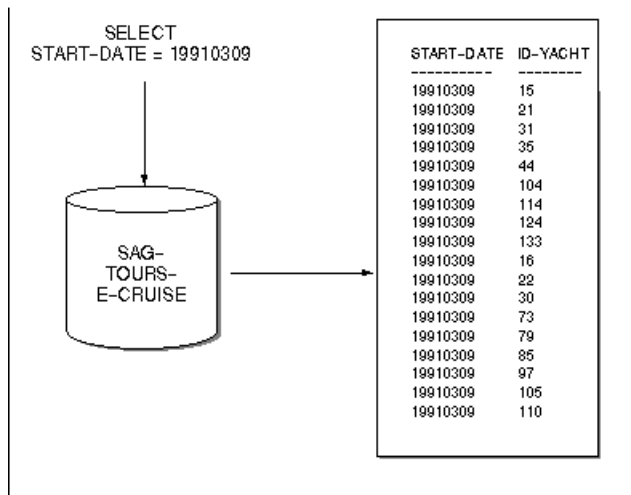
1. When a record is found in the primary file, Super Natural takes the value of its link field (`ID-YACHT`) and searches the secondary file for records whose link field (`YACHT-ID`) has the same value. The following records are found:
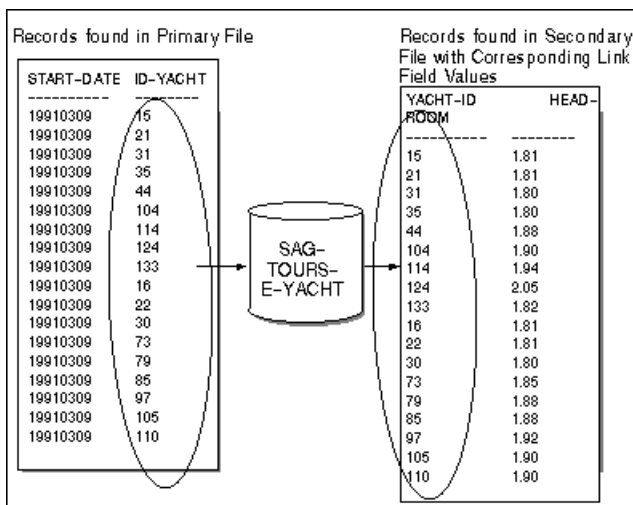
1. The selection criterion HEAD-ROOM > 1.95 is applied to the records found in the secondary file. The following record is found.
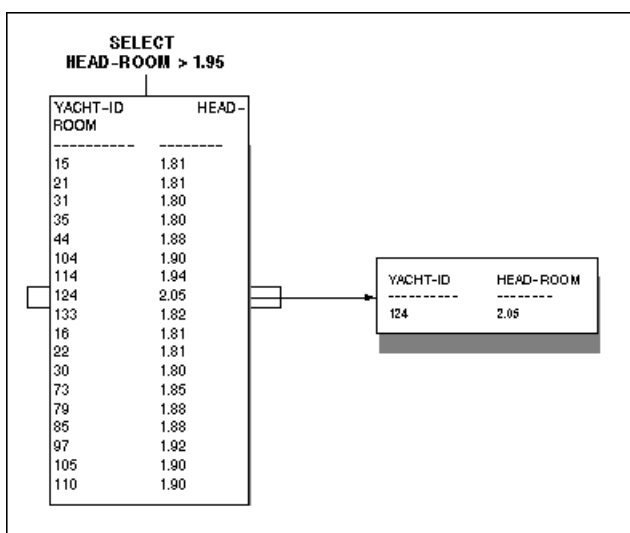
Transaction Specification

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 ↩
```

8 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:
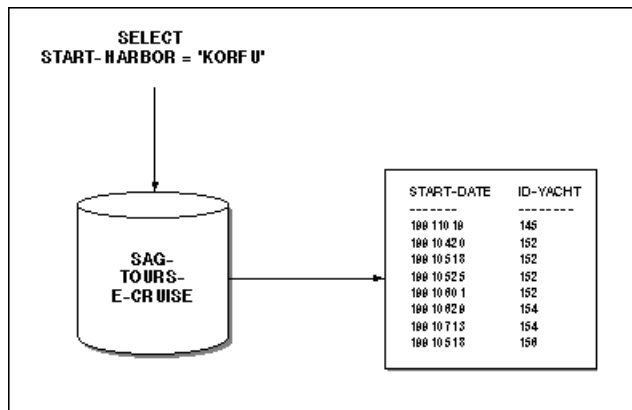
1. For each record found in the primary file, Super Natural searches the lookup file (*SAG-TOURS-E-CRUISE*) for the *first* record where the value of the lookup field (`ID-YACHT`) is the same as that of the link field in the primary file record. The following records are found:

---
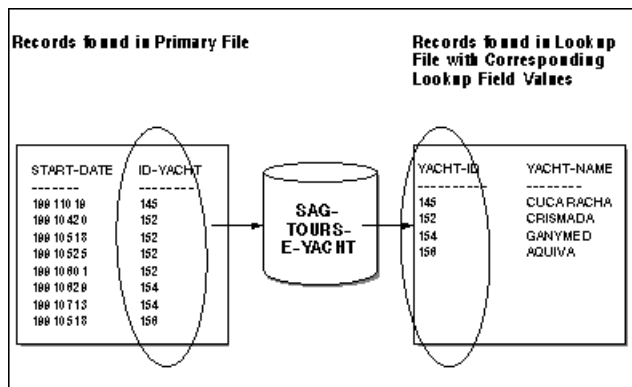
1. The records found in the primary file are returned and the desired information from the corresponding records in the lookup file is displayed.

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.

9 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.

10 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 *Administration* documentation.
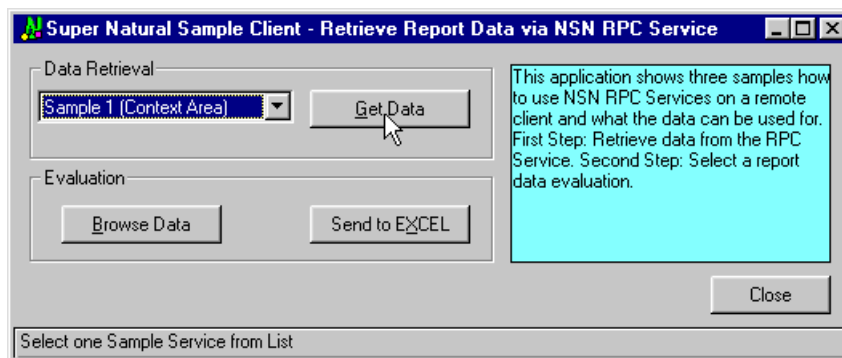
Proceed the data on your PC

▶ **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 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.

---

11 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.
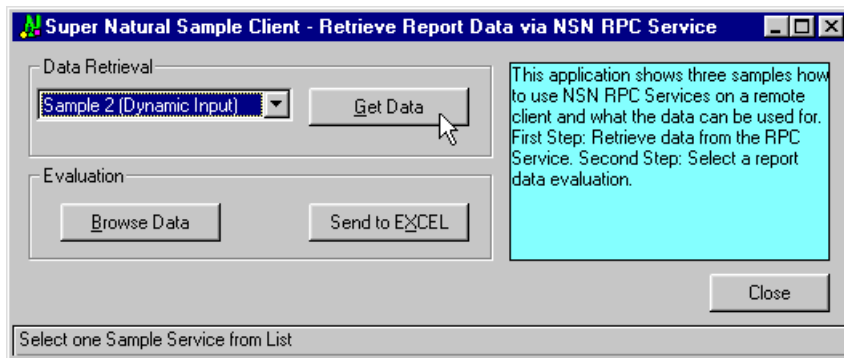
Proceed the data on your PC

▶ **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*.
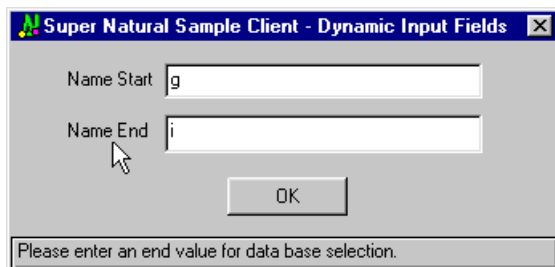
1 Open your Natural for Windows.

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.

12 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 *Administration* documentation.
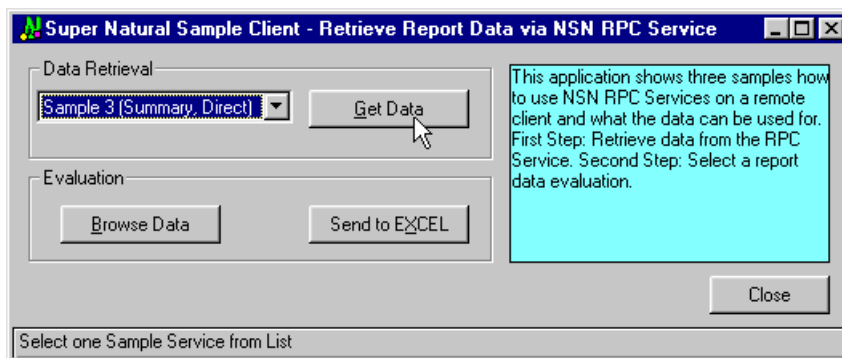
Proceed the data on your PC

▶ **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 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.

Average Turnover with Cruises