

Super Natural

Tutorial

Version 9.2.3

September 2025

This document applies to Super Natural Version 9.2.3 and all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

Copyright © 1985-2025 Software GmbH, Darmstadt, Germany and/or its subsidiaries and/or its affiliates and/or their licensors.

The name Software AG and all Software GmbH product names are either trademarks or registered trademarks of Software GmbH and/or its subsidiaries and/or its affiliates and/or their licensors. Other company and product names mentioned herein may be trademarks of their respective owners.

Detailed information on trademarks and patents owned by Software GmbH and/or its subsidiaries is located at <https://softwareag.com/licenses>.

Use of this software is subject to adherence to Software GmbH's licensing conditions and terms. These terms are part of the product documentation, located at <https://softwareag.com/licenses> and/or in the root installation directory of the licensed product(s).

This software may include portions of third-party products. For third-party copyright notices, license terms, additional rights or restrictions, please refer to "License Texts, Copyright Notices and Disclaimers of Third-Party Products". For certain specific third-party license restrictions, please refer to section E of the Legal Notices available under "License Terms and Conditions for Use of Software GmbH Products / Copyright and Trademark Notices of Software GmbH Products". These documents are part of the product documentation, located at <https://softwareag.com/licenses> and/or in the root installation directory of the licensed product(s).

Use, reproduction, transfer, publication or disclosure is prohibited except as specifically provided for in your License Agreement with Software GmbH.

Document ID: NSN-TUTORIAL-923-20250930

Table of Contents

Preface	v
1 About this Documentation	1
Document Conventions	2
Online Information and Support	2
Data Protection	3
2 About this Tutorial	5
3 Sample 1: Basic Transaction	7
Create the Transaction SAMPLE1	8
4 Sample 2: Worksheet	23
Create the Transaction SAMPLE2	24
5 Sample 3: User Fields, Calculation and Logical Conditions Editors	39
Create the Transaction SAMPLE3	41
6 Sample 4: Modes and User File	57
To create the transaction SAMPLE4:	58
7 Sample 5: Layout Editor	75
Create the Transaction SAMPLE5	76
8 Sample 6: File Link	93
Create the Transaction SAMPLE6	96
9 Sample 7: File Lookup	105
Create the Transaction SAMPL7	107
10 Sample 8: Dynamic Input Fields	117
Create the Transaction SAMPLE8	118
11 Sample 9: RPC Service in Context Mode with Primary, Secondary and Lookup files	133
Create the Transaction SAMPLE9	135
Generate the RPC Service	142
Proceed the data on your PC	145
12 Sample 10: RPC Service in Context Mode with Dynamic Input	147
Create the Transaction SAMPLE10	149
Generate the RPC Service	155
Proceed the data on your PC	158
13 Sample 11: RPC Service in Direct Mode with Summary Functionality	161
Create the Transaction SAMPLE11	163
Generate the RPC Service	167
Proceed the data on your PC	170

Preface

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

About this Tutorial
Sample 1: Basic Transaction
Sample 2: Worksheet
Sample 3: User Fields, Calculation and Logical Conditions Editors
Sample 4: Modes and User File
Sample 5: Layout Editor
Sample 6: File Link
Sample 7: File Lookup
Sample 8: Dynamic Input Fields
Sample 9: RPC Service in Context Mode with Primary, Secondary and Lookup files
Sample 10: RPC Service in Context Mode with Dynamic Input
Sample 11: RPC Service in Direct Mode with Summary Functionality

1

About this Documentation

■ Document Conventions	2
■ Online Information and Support	2
■ Data Protection	3

Document Conventions

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

Online Information and Support

Product Documentation

You can find the product documentation on our documentation website at <https://documentation.softwareag.com>.

Product Training

You can find helpful product training material on our Learning Portal at <https://learn.software-ag.com>.

Tech Community

You can collaborate with Software GmbH experts on our Tech Community website at <https://tech-community.softwareag.com>. From here you can, for example:

- Browse through our vast knowledge base.
- Ask questions and find answers in our discussion forums.
- Get the latest Software GmbH news and announcements.
- Explore our communities.
- Go to our public GitHub and Docker repositories at <https://github.com/softwareag> and <https://hub.docker.com/publishers/softwareag> and discover additional Software GmbH resources.

Product Support

Support for Software GmbH products is provided to licensed customers via our Empower Portal at <https://empower.softwareag.com>. Many services on this portal require that you have an account. If you do not yet have one, you can request it at <https://empower.softwareag.com/register>. Once you have an account, you can, for example:

- Download products, updates and fixes.
- Search the Knowledge Center for technical information and tips.
- Subscribe to early warnings and critical alerts.
- Open and update support incidents.
- Add product feature requests.

Data Protection

Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.

2 About this Tutorial

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

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

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

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

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

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

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

Help	Exit	Flip	Canc
09:22		***** Super Natural *****	06.Jan.1998
SNPROF		- Modify Profile -	Wednesday
		+---Transaction Modes Reporting---+	
	— Screen Colors	! !	
		! Data Selection .. F Full-screen !	
	— Screen Defaults	! !	
		! Data Change N None !	
	— Date/Time Formats	! !	
		! Report Type L List !	
	— PF Key Settings	! Report Level D Detailed !	
		! !	
	— Language Code and Checklis	! Destination S Screen !	
		! !	
	— Transaction Options	! Run Mode 0 Online !	
		! !	
	X Transaction Modes	! Batch printer ... (0 - 31) !	
		! RJE available ... N (Y/N) !	
		! !	
		+-----+	

3

Sample 1: Basic Transaction

■ Create the Transaction SAMPLE1	8
--	---

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	<i>SAG-TOURS-E-CRUISE</i>
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
                                                    ↵
      1  <          +-----Fields-----+
!          !          !          ↵
      2  <          !  _  Field List  Invoke Field List ↵
!          !          !          ↵
      3  <          !  _  ALL          Select All Records !
      4  <          !          !          ↵
!          !          ! 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          !                               ↵
!                                ! _ EQ (=)  Equal to           ↵
!                                ! _ NE (≠)  Not Equal          ↵
!                                ! _ LT (<)   Less than          ↵
!                                ! _ LE (<=)  Less Equal         ↵
!                                ! _ GT (>)   Greater than       ↵
!                                ! _ GE (>=)  Greater Equal !
8  <                                ! _ ST      Starting with !
9  <                                !                               ↵
!                                !                               ↵
!                                ! Mark to replace: _           ↵
!                                !                               ↵
!                                !                               ↵
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
                                                         ↵

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

```

14 Type ATLANTIC 29 in the unnamed input field.

15 Press Enter.

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

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

```

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

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

```

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

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

➤ **To Run the Transaction**

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

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

The report is generated:

```

13:28:32  CHARTER-YACHT-TYPE = 'ATLANTIC 29'          1993-02-01
ISAMPLE1                                     1          ↵
                                         ↵
CRUISE-ID      START-HARBOR      DESTINATION-HARBOR      ↵
-----
79 KIEL                KIEL                ↵
80 KIEL                KIEL                ↵
81 KIEL                KIEL                ↵
82 KIEL                KIEL                ↵
83 KIEL                KIEL                ↵
84 KIEL                KIEL                ↵
85 KIEL                KIEL                ↵
86 KIEL                KIEL                ↵
87 KIEL                KIEL                ↵
88 KIEL                KIEL                ↵
89 KIEL                KIEL                ↵
90 KIEL                KIEL                ↵
91 KIEL                KIEL                ↵
92 KIEL                KIEL                ↵
93 KIEL                KIEL                ↵
                                         ↵
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Print Exit                Flip      +                      Canc  ↵

```

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

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

4

Sample 2: Worksheet

■ Create the Transaction SAMPLE2	24
--	----

Task: List cruises sorted according to cruise starting date and show the cheapest cruise price available for each data and the cheapest cruise offer 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	<i>SAG-TOURS-E-CRUISE</i>
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-DATE.

- 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:

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

> To Define Further Sort Order

■ 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:

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		_____	

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

Control Break Number

Control Field

Control Field Value

START DATE	CRUISE-PRICE	CRUISE-ID	START-HARBOR	DESTINATION-HAR
END DATE				
19910315	1400.000	5134 KOFU		REGGIO DI CALABR
19910331				
19910315	1350.000	5143 KOF		LESBOG
19910331				
19910315	1250.000	5103 KUSADASI		MARMARIS
19910331				
** Control Break (1) **				
START DATE END DATE : 19910315				
Min	500.000			
19910325	500.000	5132 KOFU		KOFU
19910331				
19910325	1200.000	5093 PALMA DE MALLORCA		MILASNO
19910605				
Enter-FF1-FF2-FF3-FF4-FF5-FF6-FF7-FF8-FF9-FF10-FF11-FF12				
Print Exit Flip + Posi < > Cans				

System Function

Result Of System Function
Displayed Under The Field
To Which It Was Applied

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

- 4 Use PF11 and PF10 to shift to the left and right in the report.
- 5 Use PF9 to position the field at cursor position to the left-hand side of the screen.

5

Sample 3: User Fields, Calculation and Logical Conditions

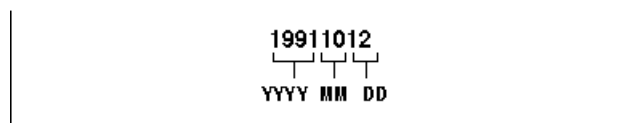
Editors

- Create the Transaction SAMPLE3 41

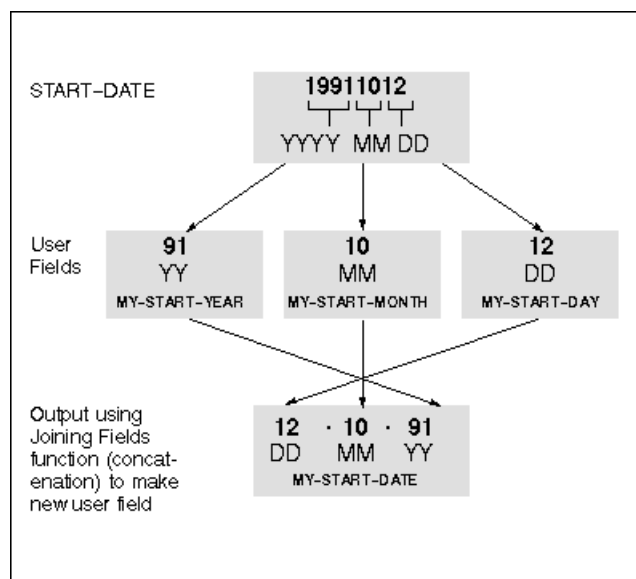
Task: List cruises which use charter yacht type ATLANTIC 29. Display end date of cruise under start date and present the information in the format DD.MM.YY. Display the text 'too late' instead of the data sets (files) for cruises which start after 7.1.1991.

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	<i>SAG-TOURS-E-CRUISE</i>
User Fields	<i>MY-START-DATE</i> <i>MY-START-YEAR</i> <i>MY-START-MONTH</i> <i>MY-START-DAY</i> <i>MY-END-DATE</i> <i>MY-END-YEAR</i> <i>MY-END-MONTH</i> <i>MY-END-DAY</i>
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-DATE 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 Offset field.

```

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 Worksheet.

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

```

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

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

Define logic conditions or use CONTINUE

Command ==>

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

```

➤ **To Run the Transaction**

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

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

```

16:16:05  CHARTER-YACHT-TYPE = 'ATLANTIC 29'          1998-02-09
ISAMPLE3                                     4
↵
↵
CRUISE-ID      START-HARBOR      DESTINATION-HARBOR  CRUISE
                                  FROM
                                  TO
-----
97 KIEL                KIEL          8.6.91
                                  22.6.91
98 KIEL                KIEL          22.6.91
                                  29.6.91
99 KIEL                KIEL          29.6.91
                                  10.8.91
100 KIEL              KIEL          TOO LATE
101 KIEL                KIEL          TOO LATE
102 KIEL                KIEL          TOO LATE

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

```


6

Sample 4: Modes and User File

- To create the transaction SAMPLE4: 58

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	<i>SAG-TOURS-E-CRUISE</i>
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.

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

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

- The Selection Editor appears.

-
- # Tutorial

➤ **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 ..... 0  Online           ↵
!
BK          _____ !                                           ↵
!
BL          _____ ! Batch printer ... 0  (0 - 31)       ↵
!
BM          _____ ! RJE available ... N  (Y/N)         ↵
!
!
!
                                                                    +-----+

```

4 Press PF11 (RUN).

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


```

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

CRUISE-ID ..... 79                               ↵

START-HARBOR ..... KIEL                           ↵

DESTINATION-HARBOR ..... KIEL                     ↵

START-DATE ..... 19910330                         ↵

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

```

➤ **To Summarize the Data**

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

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

The Worksheet appears.

- 2 Issue the `MODES` command.

The Transaction Modes Reporting window appears.

- 3 Enter `L` in the Report Type field.

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

```

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

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

```

4 Press Enter.

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

```

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

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

```

- 5 Modify user file name and description (optional).
- 6 Press Enter.

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

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

The Worksheet now has the following entries:

```

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

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

Fill in required definitions                                     ↵

Command ==>                                                    ↵

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

```

8 Press PF11 (RUN).

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

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

7

Sample 5: Layout Editor

■ Create the Transaction SAMPLE5	76
--	----

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	<i>SAG-TOURS-E-CRUISE</i>
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 `M0` 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  Attrb.  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
PREFACE          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
                                         _PREFACE                               Pre
                                         _PREFACE                               Pre
                                         _PREFACE                               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 Overtyping 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 )S00000000                                           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 Overtyping the line which contains the text `** Control Break (1) **` with blanks.
- 3 Typing the `.M` field command in the field `)S00000000` next to the text `START-DATE`.
- 4 Positioning the cursor in the same line in column 050 (under 050 in the scale).
- 5 Pressing 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 Overtyping 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: )S00000000      ↵
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 )S00000000                                         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 (overtyping the equals (=) sign).

```
All   ---010---+-----+-----+---030- ( Group10 ) ---050---+-----+-----+---070--- Typ
                                Total Number of Cruises:      )S00000000                                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.

[illegible]

- 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          I          I  I          List          I          ↵
I          I          I  I          I          I          ↵
I          I          I  +-----+-----+-----+-----+-----+
I          I          I  +-----+-----+-----+-----+-----+
I          I          I  I          Group          I          ↵
I          I          I  I          I          I          ↵
I          I          I  I          1 10          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 ↵
```

The preface element you have created is now shown.

2 Press PF8.

The Worksheet appears:

```

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

Ref DB      Field Name                               Seq   S/C   Func Def   Info Del   ↵
AA  1K      CRUISE-ID .....                          L__   __   >_   _   _   _   ↵
AE  1K 2    START-DATE .....                          L__   C1_   >_   _   _   _   ↵
AJ  1K      START-HARBOR .....                        L__   __   _   _   _   _   ↵
AK  1K      DESTINATION-HARBOR .....                  L__   __   _   _   _   _   ↵
AP  1 2    CHARTER-YACHT-TYPE .....                  ____   __   _   _   _   _   ↵
BI   V      *TIMX .....                              L__   __   _   _   _   _   ↵
BJ   V      *DATX .....                              L__   __   _   _   _   _   ↵
BK   V      *PROGRAM .....                          L__   __   _   _   _   _   ↵
BL   V      *PAGE-NUMBER .....                      L__   __   _   _   _   _   ↵
BM          _____                              ____   __   _   _   _   _   ↵
BN          _____                              ____   __   _   _   _   _   ↵
BO          _____                              ____   __   _   _   _   _   ↵
BP          _____                              ____   __   _   _   _   _   ↵
BQ          _____                              ____   __   _   _   _   _   ↵
↵
↵
Layout has been successfully modified                    ↵
Command ==>                                             ↵
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Next Exit Field Incl Flip -      +              Sel Run Canc ↵

```

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

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

➤ **To Run the Transaction**

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

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

17:50:22 CHARTER-YACHT-TYPE = 'ATLANTIC 29' 1998-02-26
ISAMPLE5 1 ↵

PREFACE ↵

This transaction uses data from the file SAG-TOURS-E-CRUISE. The
report shows cruise ID's, start harbor, destination harbor and
starting date for cruises which use yachts of type Atlantic 29. ↵

The data is sorted according to cruise starting date. ↵

At the end of each month, the number of cruises in that month is
shown. The total number of cruises is shown at the end of the
report. ↵

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


```
14:28:26  CHARTER-YACHT-TYPE = 'ATLANTIC 29'          1998-03-01
ISAMPLE5                                     2          ↵
                                                ↵
CRUISE-ID      START-HARBOR      DESTINATION-HARBOR  START-DATE      ↵
+++++++      ++++++      ++++++      ++++++      ↵
                                                ↵
          79 KIEL                KIEL                19910330      ↵
          92 KIEL                KIEL                19910330      ↵
         106 KIEL                KIEL                19910330      ↵
                                                ↵
                Last starting date:                19910330      ↵
                Number of Cruises this Month:        3          ↵
                                                ↵
                                                ↵
                                                ↵
                                                ↵
                                                ↵
                                                ↵
          80 KIEL                KIEL                19910406      ↵
         107 KIEL                KIEL                19910413      ↵
                                                ↵
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
          Print Exit                Flip          +                  Canc ↵
```

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

                                         ↵

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

      Last starting date:                19911026

                                         ↵

      Number of Cruises this Month:      4          ↵

      Total Number of Cruises:           41

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

8

Sample 6: File Link

■ Create the Transaction SAMPLE6	96
--	----

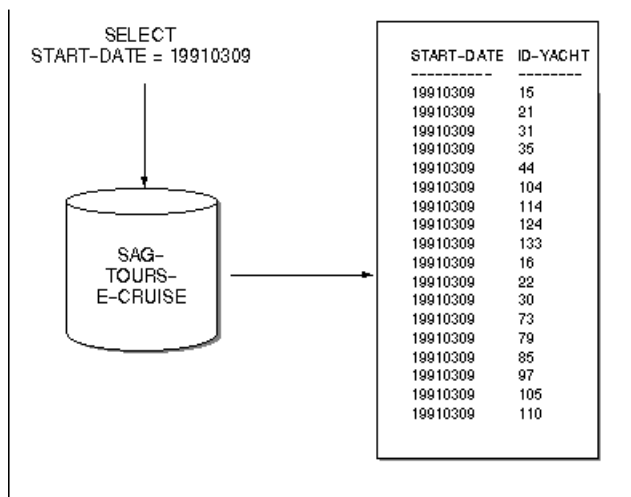
Task: Find both the name and type of the yacht in which a customer sailed on a cruise starting on March 9 1991. the customer is very tall and remembers that the yacht had head room of more than 1m95cm.

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.

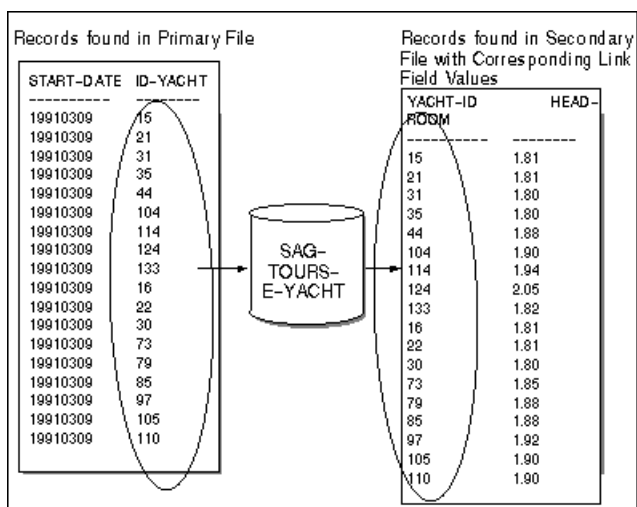
For further information on linking files, see *INCLUDE command* and *What is File Linking?* in Files in the *User's Guide*.

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

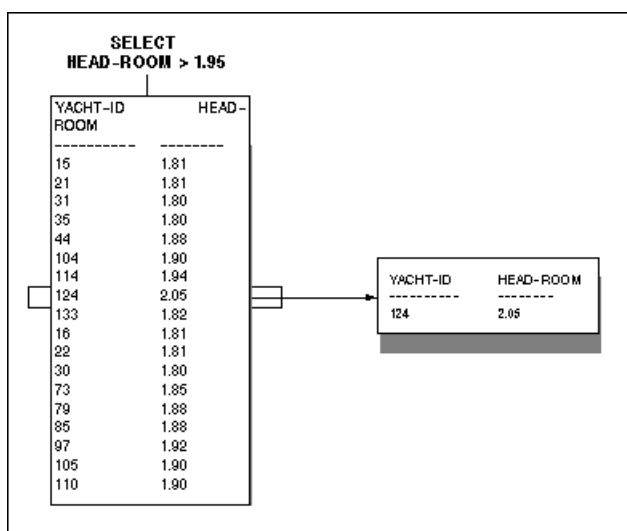
1. A search is made in the *SAG-TOURS-E-CRUISE* file for all records which meet the selection criterion `START-DATE = 19910309`. The following records are found:



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   +-----+-----+-----+-----+-----+-----+
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 <          +-----Report Line Length-----+

```

3 Press Enter.

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

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

YACHT-NAME ..... CASABLANCA      ↵
YACHT-TYPE ..... PACIFIC 52      ↵
START-DATE ..... 19910309      ↵
HEAD-ROOM ..... 2.05      ↵

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


9

Sample 7: File Lookup

■ Create the Transaction SAMPL7	107
---------------------------------------	-----

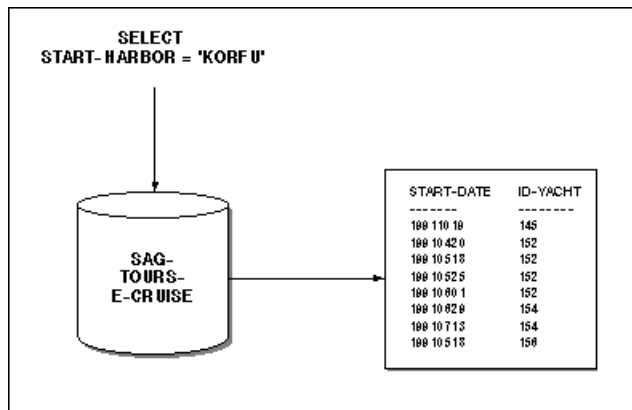
Task: List cruises starting in Korfu with their destination and starting date in order of starting date. List the type, name and length of the yachts which sail on these cruises.

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.

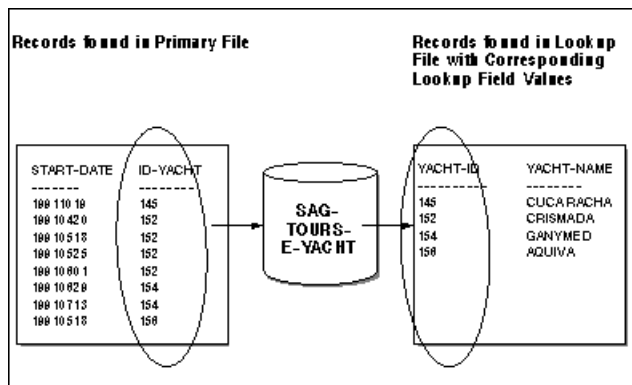
For further information on file lookup, see *INCLUDE command* and *What is File Lookup?* in *Defining Files in the User's Guide*.

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-YACHT*) 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	<i>SAG-TOURS-E-CRUISE</i>
Lookup Field In Primary File	ID - YACHT
Lookup File	<i>SAG-TOURS-E-YACHT</i>
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.

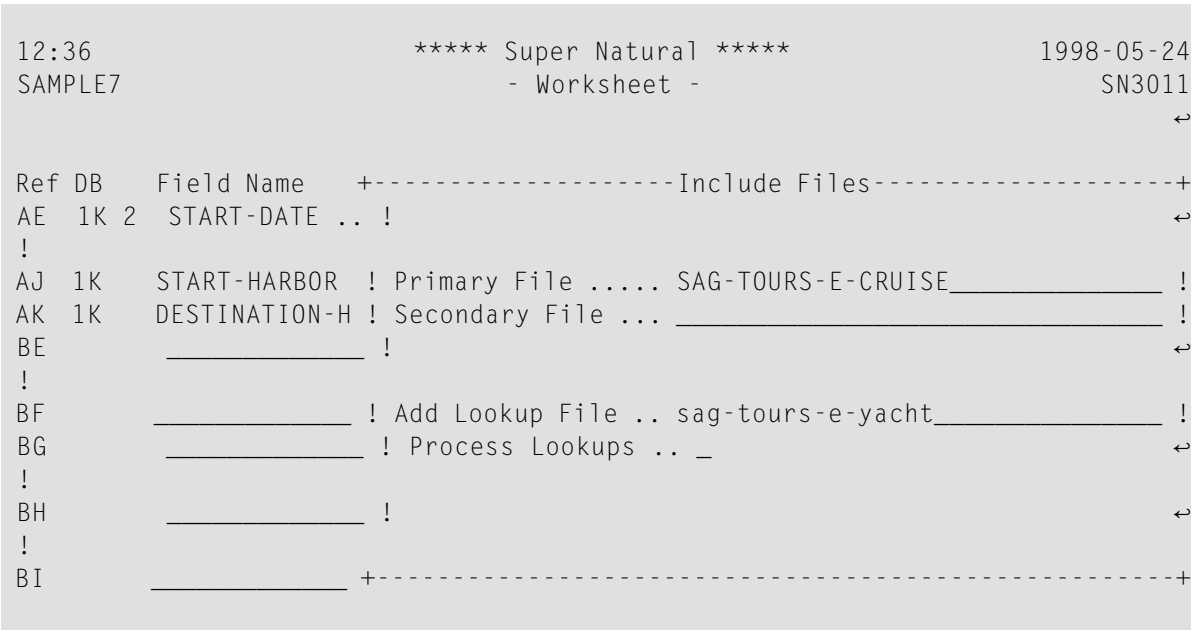
- Choose the fields as described in Step 3 of *Sample 1*.

> 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.



The Define File Lookup window appears.

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

```

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

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

```

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

5 Press Enter.

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

➤ To Choose Fields from Lookup File

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

- 1 Mark the fields in the Field Selection List window.

```

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

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

```

- 2 Press Enter.

The Field Selection List window closes.

- 3 Press Enter.

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

- 4 Press Enter.

- 5 The Worksheet reappears.

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

- 1 Type 1 in the Sequence column next to the field `START-DATE`.
- 2 Type 2 in the Sequence column next to the field `START-HARBOR`.
- 3 Type 3 in the Sequence column next to the field `DESTINATION-HARBOR`.
- 4 Type 4 in the Sequence column next to the field `YACHT-TYPE`.
- 5 Type 5 in the Sequence column next to the field `YACHT-NAME`.
- 6 Type 6 in the Sequence column next to the field `LENGTH`.

➤ **To Define Sort Criteria**

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

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

The Worksheet now has the following entries:

```

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

Ref DB      Field Name          Seq   S/C   Func Def   Info Del ↵
AE  1K 2    START-DATE .....    1__  S1_   _   _   _   _ ↵
AJ  1K      START-HARBOR .....    2__   _   _   _   _   _ ↵
AK  1K      DESTINATION-HARBOR ..... 3__   _   _   _   _   _ ↵
AL  1K      ID-YACHT .....        _   _   _   _   _   _ ↵
BE  LK 3    YACHT-ID .....        _   _   _   _   _   _ ↵
BF  L  3    YACHT-NAME .....       5__   _   _   _   _   _ ↵
BG  L  3    YACHT-TYPE .....       4__   _   _   _   _   _ ↵
BH  L  3    LENGTH .....          6__   _   _   _   _   _ ↵
BI      _____              _   _   _   _   _   _ ↵
BJ      _____              _   _   _   _   _   _ ↵
BK      _____              _   _   _   _   _   _ ↵
BL      _____              _   _   _   _   _   _ ↵
BM      _____              _   _   _   _   _   _ ↵
BN      _____              _   _   _   _   _   _ ↵
↵
↵
Fill in required definitions ↵
Command ==> ↵
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Next Exit Field Incl Flip -      +      Sel Run Canc ↵

```

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

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

> To Define Selection Criteria

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

The Selection Editor appears.

The report requires information on cruises which start in Korfu.

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

```

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

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

```



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

> To Run the Transaction

- 1 Issue the `RUN` command.

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

- 2 Mark the option Enlarge Available Line Size.

```

13:23          ***** Super Natural *****          1998-05-24
SAMPLE7          - Selection Editor -                  SNZUL-S
                                                    ↵
          +-----Report Line Length-----+
1  < START-HARBOR  !                                     ↵
!
2  <                ! The selected fields required a line size of .. 121 !
3  <                ! The field headers required a line size of .... 122 !
4  <                ! The available Online line size at present ... 79 ↵
!
5  <                !                                     ↵
!
6  <                !   x  Enlarge Available Line Size           ↵
!
7  <                !   _  Change to Report Type Vertical List   ↵
!
8  <                !   _  Truncate Headers                       ↵
!
9  <                !   _  Remove Excess Fields                   ↵
!
10 <                !   _  Remove Excess Fields and Truncate Headers ↵
!
11 <                !   _  Modify Transaction                     ↵
!
12 <                !                                     ↵
!
13 <                +-----+

```

3 Press Enter.

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


```

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

```

START-DATE	START-HARBOR	DESTINATION-HARBOR	YACHT-TYPE
19910420	KORFU	KEFALONIA	MIKADO 56
19910518	KORFU	KORFU	MIKADO 56
19910518	KORFU	REGGIO DI CALABRIA	15-M-STEILGAFFELSCHONER
19910525	KORFU	KORFU	MIKADO 56
19910601	KORFU	KEFALONIA	MIKADO 56
19910629	KORFU	KORFU	FIRST 38 S
19910713	KORFU	ZAKYNTHOS	FIRST 38 S
19911019	KORFU	KALAMATA	SKORPION III

```

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

```

- 4 Use PF11 and PF10 to shift to the left and right in the report.
- 5 Use PF9 to position the field at cursor position to the left-hand side of the screen.

10

Sample 8: Dynamic Input Fields

■ Create the Transaction SAMPLE8	118
--	-----

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	<i>SAG-TOURS-E-CRUISE</i>
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 Overtyping 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 Overtyp 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          ↵
+-----+
+-----+
I          List          I          ↵
I          I              I          ↵
I          I              I          ↵
I          I              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  Attrb.  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 4 to 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 3 to position the *TIMX field after the text.
- 12 Type the text Start harbors starting at position 10 in 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 Attrb. 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
Run on(XXXXXXXX at(XXXXXXXX
Start harbors)XXXXX up to but not including)XXXXX
Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12---
Help Set Exit Field Edit Flip - + Tech < > Canc

```

> To Run the Transaction

- 1 Press PF2.

The Layout Overview screen appears.

- 2 Press PF8.

The Worksheet appears:

```

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

Ref DB      Field Name                               Seq   S/C   Func Def   Info Del ↵
AE  1K 2    START-DATE .....                        L__   ___   ___   ___   ___   ___ ↵
AH  1K 2    END-DATE .....                          L__   ___   ___   ___   ___   ___ ↵
AJ  1K      START-HARBOR .....                      L__   ___   ___   ___   ___   ___ ↵
AU  1  2    BUNK-NUMBER .....                      L__   ___   ___   ___   ___   ___ ↵
BE  #      START1 .....                            L__   ___   ___   ___   ___   ___ ↵
BF  #      START2 .....                            L__   ___   ___   ___   ___   ___ ↵
BK  V      *DATX .....                             L__   ___   ___   ___   ___   ___ ↵
BL  V      *TIMX .....                             L__   ___   ___   ___   ___   ___ ↵
BM          _____                            ___   ___   ___   ___   ___   ___ ↵
BN          _____                            ___   ___   ___   ___   ___   ___ ↵
BO          _____                            ___   ___   ___   ___   ___   ___ ↵
BP          _____                            ___   ___   ___   ___   ___   ___ ↵
BQ          _____                            ___   ___   ___   ___   ___   ___ ↵
BR          _____                            ___   ___   ___   ___   ___   ___ ↵
↵
↵
Layout has been successfully modified                ↵
Command ==>                                         ↵
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Next Exit Field Incl Flip   -   +           Sel  Run  Canc ↵

```

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

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

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

The Dynamic Input Value window appears:

```

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

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

```

4 Type **D** in the `Start1` field.

5 Type **F** in the `Start2` field.

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

6 Press Enter.

The report is generated:

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

Start harbors D up to but not including F

START-HARBOR	START-DATE	END-DATE	BUNK-NUMBER
-----	-----	-----	-----
DAKKAR	19910818	19910921	5
DUBROVNIK	19910406	19910419	7
EL SALVADOR	19920412	19920425	4
ELBA	19911012	19911025	6
ELBA	19910915	19910928	4
ELBA	19910907	19910920	6
ESPIRITO SANTO	19911020	19911109	5

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

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

Start harbors D      up to but not including F

START-HARBOR      START-DATE END-DATE  BUNK-NUMBER
-----
*** End of report ***

Number of records processed: = 7
```

7 Press Enter.

The Worksheet appears.

8 Press PF11

The Dynamic Input Value window appears.

9 Type U in the Start1 field.

10 Type W in the Start2 field.

11 Press Enter.

The report is generated:

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

Start harbors U up to but not including W

START-HARBOR	START-DATE	END-DATE	BUNK-NUMBER
-----	-----	-----	-----
VALENCIA	19920516	19920529	4
VALENCIA	19911005	19911018	6
VILAMOURA	19920104	19920117	6
VILAMOURA	19920215	19920228	6
VILAMOURA	19920404	19920417	4
VIRGIN ISLANDS	19920405	19920418	6
VIRGIN ISLANDS	19920419	19920509	6
VIRGIN ISLANDS	19910209	19910223	6

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

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

Start harbors U      up to but not including W

START-HARBOR      START-DATE END-DATE  BUNK-NUMBER
-----
*** End of report ***

Number of records processed: = 8
```



Note: Notice the new data in the title.

11

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

■ Create the Transaction SAMPLE9	135
■ Generate the RPC Service	142
■ Proceed the data on your PC	145

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	<i>SAG-TOURS-E-YACHT</i>
Secondary File	<i>SAG-TOURS-E-CRUISE</i>
Link field in primary file	YACHT-ID
Link field in secondary file	ID-YACHT
Lookup File	<i>SAG-TOURS-E-PERSON</i>
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   +-----+-----+-----+-----+-----+-----+
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.

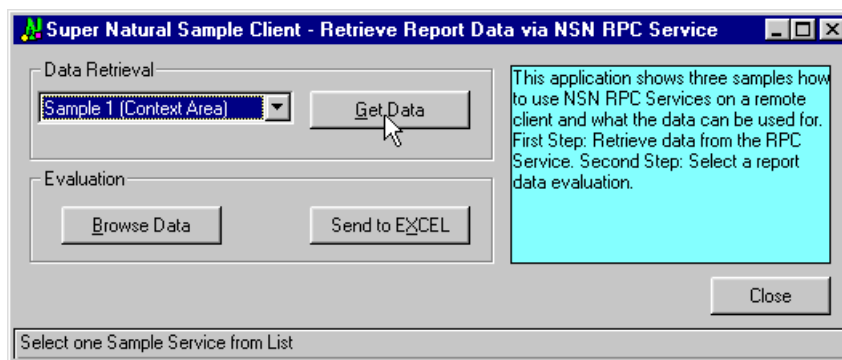
Proceed the data on your PC

> 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.

12

Sample 10: RPC Service in Context Mode with Dynamic

Input

■ Create the Transaction SAMPLE10	149
■ Generate the RPC Service	155
■ Proceed the data on your PC	158

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 your user profile to R.

If your 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	<i>SAG-TOURS-E-PERSON</i>
Display Fields	1: FIRST-NAME - 1 2: SURNAME 4: STREET-NUMBER 6: ZIP-CODE 7: CITY 9: COUNTRY
Sort Fields	S1: COUNTRY S2: SURNAME
Dynamic Input Fields	NAME - START NAME - END
Selection Criteria	SURNAME = NAME-START THRU NAME-END

This section covers the following topics:

- [Create the Transaction SAMPLE10](#)
- [Generate the RPC Service](#)

■ **Proceed the data on your PC**

Create the Transaction SAMPLE10

➤ **To Add a Transaction**

- 1 Issue the `ADD TRANSACTION SAMPLE10` command.

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

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

➤ **To Choose File**

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

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

The Worksheet appears.

➤ **To Choose Fields**

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

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

➤ **To Determine Display Sequence**

- 1 Type 1 in the Sequence column next to the field FIRST-NAME-1.
- 2 Type 2 in the Sequence column next to the field SURNAME.
- 3 Type 4 in the Sequence column next to the field STREET-NUMBER.
- 4 Type 6 in the Sequence column next to the field ZIP-CODE.
- 5 Type 7 in the Sequence column next to the field CITY.
- 6 Type 9 in the Sequence column next to the field COUNTRY.

➤ To Define Sort Order

- 1 Type S1 in the S/C column next to the field COUNTRY.
- 2 Type S2 in the S/C column next to the field SURNAME.

➤ To Define Dynamic Input Fields

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

The Define User Field window appears:

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

```
20:10          ***** SUPER NATURAL *****          2000-10-17
SAMPLE10          - Worksheet -          SN3011

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

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

- 3 Press Enter.

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

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

Now your Worksheet looks as follows:

```

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

Ref DB   Field Name                               Seq   S/C   Func  Def  Info Del
AE  1K 2  SURNAME .....                          2__   S2__  _    _    _
AF  1  2  FIRST-NAME-1 .....                      1__   _    _    _    _
AL  1  2  STREET-NUMBER .....                     4__   _    _    _    _
AM  1K 2  COUNTRY .....                          9__   S1__  _    _    _
AN  1K 2  ZIP-CODE .....                          6__   _    _    _    _
AO  1K 2  CITY .....                             7__   _    _    _    _
BI   #    NAME-START .....                       _    _    _    _    _
BJ   #    NAME-END .....                         _    _    _    _    _
BK                                     _____
BL                                     _____
BM                                     _____
BN                                     _____
BO                                     _____
BP                                     _____

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

```

➤ To Define Selection Criteria

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

- 1 Press PF10.

The SELECTION command is issued and the Selection Editor appears.

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

The Selection Editor has the following content:

```

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

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

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

```

➤ To Run the Transaction

- 1 Issue the **RUN** command. This command is allocated to PF11.
- 2 Press Enter

The following dialog appears:

```

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

Define selection lines or use CONTINUE

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

```

- 3 Enter the Start and End value and press Enter.

The report is displayed:

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

ANDREAS	GASSNER	KAERTNER STR. 9	7000	STUTT
PETRA	GOLDSTEIN	WALDWEG 8	8190	WOLFR
HEINZ	GRAF	SCHLOSSWEG 1	6100	GRIES
MARGARETHE	GROTH	BEETHOVENSTR. 34	6000	FRANK
JOPP	GROTHE	WIELANDSTR. 109	6000	FRANK
FLORIAN	GRUBER	DIEBURGERSTR. 54	6100	DARMS
ESTER	GRUENBERG	ROSENWEG 17	6103	GRIES
MARTHA	GUHLICH	THERESE GIESE STR 89	6450	HANAU
ROSWITHA	HAIBACH	POSTFACH 332	6450	HANAU
YASMIN	HASSEIN	DOMWEG 8	6000	FRANK
CORNELIA	HECK	MARIENSTRASSE 18	8000	MUENC
CLEMENS	HEILBROCK	OPELSTRASSE 49	6000	FRANK
GERHARD	HEINZELMANN	VIKTORIASTR. 43	6100	DARMS
JOHANNA	HELDMANN	DARMSTAEDTERWEG 34	6104	SEEHE
ANTON	HESCHMANN	MEERKATZSTR. 8	6000	FRANK
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---				
Print Exit		Flip	+ Posi	< > Canc

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

*** End of report ***				
Number of records processed: = 178				

4 Press PF3.

The Worksheet appears:


```

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

Ref DB      Field Name                               Seq  S/C  Func  Def  Info Del
AE  1K 2    SURNAME .....                          2__  S2__  __   __   __
AF  1  2    FIRST-NAME-1 .....                      1__  __   __   __   __
AL  1  2    STREET-NUMBER .....                     4__  __   __   __   __
AM  1K 2    COUNTRY .....                          9__  S1__  __   __   __
AN  1K 2    ZIP-CODE .....                          6__  __   __   __   __
AO  1K 2    CITY .....                              7__  __   __   __   __
BI   #     NAME-START .....                        ____  __   __   __   __
BJ   #     NAME-END .....                          ____  __   __   __   __
BK                                     _____
BL                                     _____
BM                                     _____
BN                                     _____
BO                                     _____
BP                                     _____

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

```

Generate the RPC Service

➤ To generate the RPC Service for the transaction SAMPLE10

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

The following window appears:

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

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

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

The following window appears:

```

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

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

```

- 3 Specify the RPC Service Object Name **RPCSMPL2** and the Library **NSNSAMPL** to generate the RPC Service.
- 4 Select Generation Mode **Context**.
- 5 Delete the Record Limit and press **Enter** to receive the recommended record limit for the generation.
- 6 Press **Enter**.

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

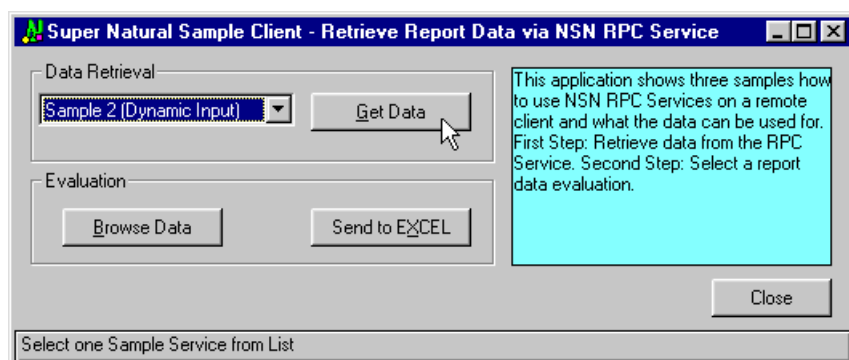
Proceed the data on your PC

> To proceed the data on your PC

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

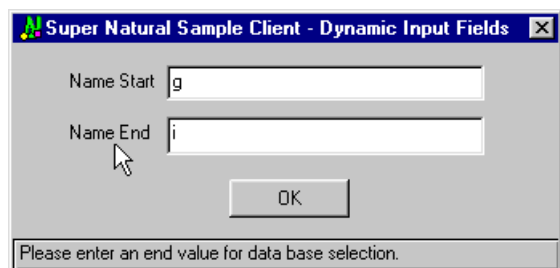
- 1 Open your Natural for Windows.
- 2 Execute **User Libraries > NSNSAMPL > Dialogs > Menu** by using the `Execute` button in the symbol list.

The following dialog appears:



- 3 Select *Sample 2 (Dynamic Input)* in the `Data Retrieval` field.
- 4 Choose `Get Data` to load the sample data.

The following dialog appears:



- 5 Enter the start and end value as dynamic input.
- 6 Select `OK`.

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

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

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

13

Sample 11: RPC Service in Direct Mode with Summary

Functionality

■ Create the Transaction SAMPLE11	163
■ Generate the RPC Service	167
■ Proceed the data on your PC	170

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	<i>SAG-TOURS-E-CONTRACT</i>
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.

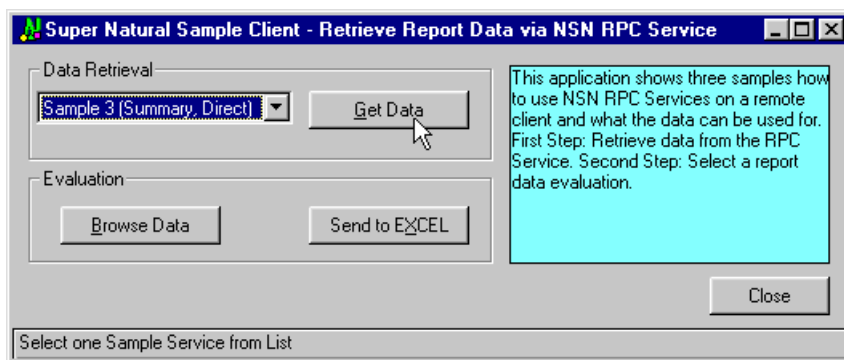
Proceed the data on your PC

> 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.

