Retrieval of System Tables

Important:
Before you use the **Retrieval of System Tables** function, refer to *LISTSQL and Explain Functions* in the section *Special Requirements for Natural Tools for DB2*.

The DB2 system tables provide information on the contents of your DB2 system. The **Retrieval of System Tables** function enables you to:

- display information on DB2 objects without coding SQL queries;

- easily access related objects, such as indexes of a table.

The DB2 objects supported by the **Retrieval of System Tables** function are database, tablespace, table, index, column, plan, check constraints, statistic tables, package, and DBRM (database request module), as well as access rights to and relationships between these objects.

DB2 objects are presented in one of the following two ways:

- As selection lists, where all objects are of the same type, and where commands can be issued to display related objects.

- You can list databases, tables, plans, and packages by name. From the database listings, you can invoke listings of the tablespaces or tables of a database. From the table listing, you can invoke listings of the columns and indexes of a table. From the plan listing, you can invoke listings of the DBRMs of a plan, of the package list of a plan, of the tables and indexes used by a plan, and of the systems which are enabled or disabled for a plan. From the package listing, you can invoke listings of the tables and indexes used in a package and of the systems which are enabled or disabled for a package. From the database, table, plan, or package listings, you can also investigate who is authorized to access a DB2 object. In addition, the **User Authorization** menu enables you to list all existing access rights by user ID.

- As reports, which merely contain information on different types of DB2 objects, and where only browse commands can be issued.

The most important browse commands can also be issued via PF keys; see *Editing within the Natural Tools for DB2*.

This section covers the following topics:

- Invoking the Retrieval of System Tables Function

- List Databases

- List Tablespaces

- List Plans

- Commands Allowed on Plans

- List Packages

- List Tables

- User Authorizations

- List Statistic Tables

Invoking the Retrieval of System Tables Function

▶ **To invoke the Retrieval of System Tables function**

- On the **Natural Tools for DB2 Main Menu**, enter function code R.

  The **Retrieval of System Tables** screen is displayed:

```
 16:31:56                  ***** NATURAL TOOLS FOR DB2 *****            2006-05-25
                              - Retrieval of System Tables -

                    Code   Function             Parameter

                    D     List Databases       Database
                    K     List Packages        Collection, Name
                    P     List Plans           Plan
                    T     List Tables          Tbreator, Tbname
                    U     User Authorizations
                    S     Statistic Tables
                    ?     Help
                    .     Exit

              Code .. _    Database Name ....... _____
                           Package Collection .. _____
                           Package Name ........ _____
                           Plan Name ........... _____
                           Table Creator ....... _____
                           Table Name .......... _____

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

With PF2 (Setup) the maximum length of one column and the number of fixed characters when scrolling left may be specified. The default values for both parameters may be changed in the CONFIG subprogram in library SYSDB2.

When a column value is longer than the maximum length, it will be truncated and marked with a greater than sign (>) in the case of strings truncated at the right end or a less than sign (<) in the case of numbers truncated at the left end.

Note, that for further commands on a line, for example, the line command I, only the visible value can be taken as input. This means that commands on lines will fail, when values for further processing are truncated.

```
  16:31:56                ***** NATURAL TOOLS FOR DB2 *****              2007-10-05
                             - Retrieval of System Tables -

                      Code   Function           Parameter
                             +------Retrieval of System Tables------+
                      D      List Dat !                                  !
                      K      List Pac ! Maximum length of columns ... ____8  !
                      P      List Pla ! Number of fixed characters .. ____0  !
                      T      List Tab !                                  !
                      U      User Aut !                                  !
                      S      Statisti +-------------------------------------+
                      ?      Help
                      .      Exit

               Code .. _      Database Name ....... _____
                              Package Collection .. _____
                              Package Name ........ _____
                              Plan Name ........... _____
                              Table Creator ....... _____
                              Table Name .......... _____

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

The following functions are available:

Code	Description
D	Lists databases defined in the DB2 catalog.
K	Lists packages defined in the DB2 catalog.
P	Lists plans defined in the DB2 catalog.
S	Statistic tables.
T	Lists tables defined in the DB2 catalog.
U	Provides information on which user(s) can access which DB2 objects.

The following parameters must be specified as selection criteria:

Parameter	Description
Database Name	The name of the database to be listed. Asterisk notation (*) for range specification is possible. The Database Name parameter is relevant to the **List Databases** function only.
Package Collection	The collection of the package to be listed. Asterisk notation (*) for range specification is possible. The Package Collection parameter is relevant to the **List Packages** function only.
Package Name	The name of the package to be listed. Asterisk notation (*) for range specification is possible. The Package Name parameter is relevant to the **List Packages** function only.
Plan Name	The name of the plan to be listed. Asterisk notation (*) for range specification is possible. The Plan Name parameter is relevant to the **List Plans** function only.
Table Creator	The name of the creator of the table(s) to be listed. Asterisk notation (*) for range specification is possible. The Table Creator parameter is relevant to the **List Tables** function only.
Table Name	The name of the table to be listed. Asterisk notation (*) for range specification is possible. The Table Name parameter is relevant to the **List Tables** function only.

List Databases

▶ **To invoke the List Databases function**

1. On the **Retrieval of System Tables** screen, enter function code D.

2. Specify the name of the database(s) to be listed.

   - If a value followed by an asterisk is specified, all databases defined in the DB2 catalog whose names begin with this value are listed.

   - If asterisk notation is specified only, all databases defined in the DB2 catalog are listed.

```
 16:32:24              ***** NATURAL TOOLS FOR DB2 *****              2007-10-05
  DATABASES *                                      S 01    Row 0 of 25 Columns 001 059
  ====>                                                    Scroll ===>  PAGE
    DATABASE CREATOR     STOGROUP BPOOL    DBID CREATEDBY ROSHARE TIMESTAMP GR
 ** ***************************** top of data *****************************
 __ DEMO     DEFAULT     SYSDEFLT BP0      269 DEFAULT            0001-01-0>
 __ DEMODB   SAG2        SYSDEFLT BP0      273 SAG2              0001-01-0>D8
 __ DEVELOP  SAG         DEVELOP  BP0      260 SAG               0001-01-0>DB
 __ ECHDB01  SAG2        SYSDEFLT BP0      272 SAG2              0001-01-0>
 __ EFGDB    SAG         SYSDEFLT BP0      263 SAG               0001-01-0>
 __ HBUTST   SAG2        SYSDEFLT BP0      275 SAG2              0001-01-0>
 __ PLANTAB  SAG2        SYSDEFLT BP0      270 SAG2              0001-01-0>
 __ Predict  SAG2        SYSDEFLT BP0      262 SAG2              0001-01-0>
 __ QA       SAG2        SYSDEFLT BP0      265 SAG2              0001-01-0>
 __ SAGDB04  SYSIBM      SYSDEFLT BP0        4 SYSIBM            0001-01-0>
 __ SAGDB06  SYSIBM                          6 SYSIBM            0001-01-0>
 __ SAGDB07  SAG1        SYSDEFLT BP0        7 SAG1              0001-01-0>
 __ SAGDDF   SAG1        SYSDEFLT BP0      257 SAG1              0001-01-0>
 __ SAGRLST  SAG1        SYSDEFLT BP0      256 SAG1              0001-01-0>
 __ SAG8D22A SAG1        SAG8G220 BP0      258 SAG1              0001-01-0>
 __ SAG8D22P SAG1        SAG8G220 BP0      259 SAG1              0001-01-0>


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

The following line commands are available on the database listing screen. Line commands are entered in front of the desired database(s):

Command	Description
I	Displays information on a database.
S	Selects a database to be used with main commands (see below).
U	Unselects a database.
AU	Displays information on access rights to a database.
TB	Displays all tables defined in a database.
TS	Displays all tablespaces defined in a database.

The listings of tables or tablespaces displayed as a result of the TB or TS command can be used for further processing, whereas the contents of the screens displayed as a result of the AU or I command are for information purposes only.

A list of all line commands available with the **List Database** function can be invoked as a window by entering the help character, that is, a question mark (?), in front of any of the listed databases.

The commands AU, TB, and TS can also be used as main commands. Main commands are entered in the command line of the database list screen and apply to all databases previously selected with the line command S.

A further main command is the INFO command, which is the equivalent of the I line command, but displays information on all previously selected databases. Instead of being displayed, all information resulting from the I or INFO commands can also be marked for printing. Even if already displayed, information can be printed by issuing the PRINT command.

```
 16:32:24                 ***** NATURAL TOOLS FOR DB2 *****            2007-10-05
  DATABASES *                                    S 01    Row 0 of 25 Columns 001 059
  ====>                                                        Scroll ===>  PAGE
     DATABASE CREATOR     STOGROUP BPOOL    DBID CREATEDBY ROSHARE TIMESTAMP GR
  ** **** +----------------------------------------------------------+ **********
  I_ DEMO !                                                           ! 01-01-0>
  __ DEMO !                  Select what to display                  ! 01-01-0>D8
  __ DEVE !                                                           ! 01-01-0>DB
  __ ECHD !                                                           ! 01-01-0>
  __ EFGD !               _ authorizations for database              ! 01-01-0>
  __ HBUT !               _ tablespaces in database                  ! 01-01-0>
  __ PLAN !               _ tables     in database                   ! 01-01-0>
  __ PRED !                                                           ! 01-01-0>
  __ QA   !                                                           ! 01-01-0>
  __ SAGD !                                                           ! 01-01-0>
  __ SAGD !               Mark  _ to print output                    ! 01-01-0>
  __ SAGD !                                                           ! 01-01-0>
  __ SAGD +----------------------------------------------------------+ 01-01-0>
  __ SAGRLST  SAG1       SYSDEFLT BP0       256  SAG1         0001-01-0>
  __ SAG8D22A SAG1       SAG8G220 BP0       258  SAG1         0001-01-0>
  __ SAG8D22P SAG1       SAG8G220 BP0       259  SAG1         0001-01-0>

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

A list of all main commands available with the **List Database** function can be invoked as a window by entering the help character, that is, a question mark (?), in the command line of the database list screen.

List Tablespaces

The function to list tablespaces is not part of the **Retrieval of System Tables** main menu.

▶ **To list tablespaces**

● Issue the "TS" command on the database listing screen only.

A tablespace listing screen is displayed, for example:

```
 16:35:07                 ***** NATURAL TOOLS FOR DB2 *****            2006-05-25
  TABLESPACES IN DATABASE DB2DEMO            S 02     Row 0 of 2 Columns 032 075
  ====>                                                        Scroll ===>  PAGE
     DATABASE NAME        CREATOR  BPOOL    PGSIZE PARTITIONS NTABLES SEGSIZE LO
  ** **************************** top of data *****************************
  __ DB2DEMO  AUTOMOBI   SAG      BP0         4        0       1       0 A
  __ DB2DEMO  EMPLOYEE   SAG      BP0         4        0       1       0 A
  ** **************************** bottom of data *****************************
```

The following line commands are available on the tablespace listing screen. Line commands are entered in front of the desired tablespace(s):

Command	Description
I	Displays information on a tablespace.
S	Selects a tablespace to be used with main commands.
U	Unselects a tablespace.
PT	Displays all partitions of a tablespace.
TB	Displays all tables defined in a tablespace.

The listings of tables displayed as a result of the TB command can be used for further processing, whereas the listings resulting from the I and PT commands are for information purposes only.

A list of all line commands available on the tablespace listing screen can be invoked as a window by entering the help character, that is, a question mark (?), in front of any of the listed tablespaces.

The commands PT and TB can also be used as a main commands entered on the command line of the tablespace listing screen. Main commands apply to all tablespaces previously selected with the line command S.

A further main command is the INFO command, which is the equivalent of the I line command, but displays information on all previously selected tablespaces. Instead of being displayed, all information resulting from the I or INFO commands can also be marked for printing. Even if already displayed, information can be printed by issuing the PRINT command.

```
 16:35:07                 ***** NATURAL TOOLS FOR DB2 *****                 2006-05-25
  TABLESPACES IN DATABASE DB2DEMO              S 02      Row 0 of 2 Columns 032 075
  ====>                                                         Scroll ===>  PAGE
    DATABASE NAME         CREATOR  BPOOL    PGSIZE PARTITIONS NTABLES SEGSIZE LO
  ** **** +----------------------------------------------------------+ **********
  __ DB2D !                                                          !      0 A
  __ DB2D !             Select what to display                       !      0 A
  ** **** !                                                          ! **********
         !                                                          !
         !                                                          !
         !                  _ partitions of tablespace              !
         !                  _ tables     in tablespace              !
         !                                                          !
         !                                                          !
         !                                                          !
         !               Mark  _ to print output                   !
         !                                                          !
         +----------------------------------------------------------+


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

A list of all main commands available on the tablespace listing screen can be invoked as a window by entering the help character, that is, a question mark (?), in the command line of the screen.

List Plans

▶ **To invoke the List Plans function**

● On the **Retrieval of System Tables** screen, enter function code P.

The name of the plan(s) to be listed must be specified.

○ If a value followed by an asterisk is specified, all plans defined in the DB2 catalog whose names begin with this value are listed.

○ If asterisk notation is specified only, all plans defined in the DB2 catalog are listed.

Press Enter.

```
 16:37:59                 ***** NATURAL TOOLS FOR DB2 *****              2007-10-05
  PLAN *                                      S 01      Row 0 of 80 Columns 023 075
  ====>                                                     Scroll ===>   PAGE
     PLAN      CREATOR      VALIDATE ISO ACQUIRE REL VALID OPER EXPLAIN    PLSIZE
 ** ***************************** top of data *****************************
  __  CAFPLAN  SAG3         R          S   U       C   Y     Y     N         2472
  __  SAGEDCL  SAG1         R          S   U       C   Y     Y     N         1992
  __  SAGESPCS SAG1         R          S   U       C   Y     Y     N         1992
  __  SAGESPRR SAG1         R          R   U       C   Y     Y     N         1992
  __  SAGTIA22 SAG1         R          S   U       C   Y     Y     N         1992
  __  SAG8BH22 SAG1         R          S   U       C   Y     Y     N         2296
  __  SAG8CC22 SAG1         R          S   U       C   Y     Y     N         4376
  __  SAG8IC22 SAG1         R          S   U       C   Y     Y     N         4264
  __  SAG8SC22 SAG1         R          S   U       C   Y     Y     N         2296
  __  SAGPLA   SAG          R          S   U       C   Y     Y     N         2648
  __  TREPH01  SAG4         B          S   U       C   A     Y     N         2168
  __  TREPLANC SAG2         R          S   U       C   N     Y     N         4560
  __  TREPLANG SAG2         R          S   U       C   N     Y     N         8976
  __  TREPLANO SAG2         R          S   U       C   N     Y     N         8976
  __  TREPLANT SAG2         R          S   U       C   Y     Y     N         2472
  __  TREPLAN1 SAG2         R          S   U       C   N     Y     N         3248

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

Commands Allowed on Plans

The following line commands are available on the plan listing screen. Line commands are entered in front of the desired plan(s):

Command	Description
I	Displays information on a plan.
S	Selects a plan to be used with main commands.
U	Unselects a plan.
AU	Displays information on access rights to a plan.
DR	Displays all DBRMs contained in a plan.
IX	Displays all indexes used by a plan.
PK	Displays the package list of a plan.
SY	Displays the systems enabled or disabled for a plan.
TB	Displays tables used in a plan.

The listing displayed as a result of the DR, IX, PK, or TB command can be used for further processing, whereas the contents of the screens displayed as a result of the I, AU, or SY command are for information purposes only.

A list of all line commands available with the **List Plans** function can be invoked as a window by entering the help character "?" in front of any of the listed plans.

The commands AU, DR, IX, PK, SY, and TB can also be used as main commands, which are entered on the command line of the plan listing screen and apply to all plans previously selected with the line command S.

The INFO main command, which is the equivalent of the I line command, displays information on the DBRMs and their SQL statements contained in the plans previously selected. As with the **List Database** function, information resulting from the I or INFO commands can be printed, too.

```
 16:37:59                ***** NATURAL TOOLS FOR DB2 *****              2007-10-05
  PLAN *                                        S 01     Row 0 of 80 Columns 023 075
  ====>                                                        Scroll ===>  PAGE
     PLAN      CREATOR     VALIDATE ISO ACQUIRE REL VALID OPER EXPLAIN   PLSIZE
  ** ****  +-------------------------------------------------------+ **********
  I_ CAFP  !                                                       !    2472
  __ SAGE  !                 Select what to display                !    1992
  __ SAGE  !                                                       !    1992
  __ SAGE  !          _ DBRMs of plan                              !    1992
  __ SAGT  !          _ package list of plan                       !    1992
  __ SAG8  !          _ systems enabled or disabled for plan       !    2296
  __ SAG8  !          _ tables  referenced in plan                 !    4376
  __ SAG8  !          _ indexes used in plan                       !    4264
  __ SAG8  !          _ authorizations for plan                    !    2296
  __ SAGP  !                                                       !    2648
  __ TREP  !              Mark  _ to print output                  !    2168
  __ TREP  !                                                       !    4560
  __ TREP  +-------------------------------------------------------+    8976
  __ TREPLANO SAG2       R       S   U       C   N     Y    N         8976
  __ TREPLANT SAG2       R       S   U       C   Y     Y    N         2472
  __ TREPLAN1 SAG2       R       S   U       C   N     Y    N         3248


  Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
        Help        Exit        Rfind        -     +          <     >     Canc
```
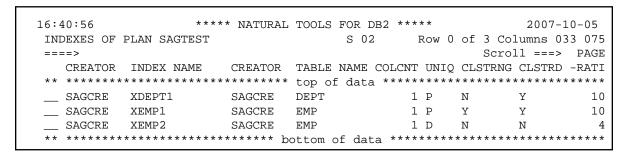
A list of all main commands available with the **List Plans** function can be invoked as a window by entering the help character, that is, a question mark (?), in the command line of the plan list screen.

DBRMs of Plan

If you issue the DR command on the plan listing screen, a list of all DBRMs bound into the selected plan(s) is displayed.

```
 16:40:56                 ***** NATURAL TOOLS FOR DB2 *****              2007-10-05
  DBRMS OF PLAN SAGTEST                          S 02      Row 0 of 3 Columns 033 075
  ====>                                                    Scroll ===>  PAGE
     PLAN      DBRM      TIMESTAMP     CREATOR   TIME       DATE      PDS NAME QUOTE CO
 ** **************************** top of data *****************************
 __  SAGTEST   TEST1     148C251A1>    SAG       16:24:10 07-10-05  DB2.V42.>N       N
 __  SAGTEST   TEST2     148C251A1>    SAG       16:24:42 07-10-05  DB2.V42.>N       N
 __  SAGTEST   TEST3     148C251A1>    SAG       16:25:15 07-10-05  DB2.V42.>N       N
 ** *************************** bottom of data ****************************
```

Commands Allowed on DBRMs

The following line commands are available on the DBRM listing screen. Line commands are entered in front of the desired DBRM(s):

Command	Description
I	Displays information on a DBRM.
S	Selects a DBRM to be used with main commands.
U	Unselects a DBRM.

A list of all line commands available on the DBRM listing screen can be invoked as a window by entering the help character, that is, a question mark (?), in front of any of the listed DBRMs.

The only main command that applies to DBRMs is the INFO command, which is the equivalent of the I line command, but displays information on all previously selected DBRMs. Instead of being displayed, all information resulting from the I or INFO commands can also be marked for printing. Even if already displayed, information can be printed by issuing the PRINT command.

```
 16:40:56              ***** NATURAL TOOLS FOR DB2 *****           2007-10-05
  DBRMS OF PLAN SAGTEST                        S 02     Row 0 of 3 Columns 033 075
  ====>                                                 Scroll ===>   PAGE
    PLAN     DBRM     TIMESTAMP   CREATOR   TIME     DATE      PDS NAME QUOTE CO
  ** **** +-------------------------------------------------------------+***********
  I_ SAGT !                                                             ! .>N     N
  __ SAGT !                   Select what to display                   ! .>N     N
  __ SAGT !                                                             ! .>N     N
  ** **** !                                                             !***********
         !                                                             !
         !                     _ Plans referencing DBRM                !
         !                     _ SQL statements of DBRM                 !
         !                                                             !
         !                                                             !
         !                                                             !
         !                   Mark  _ to print output                   !
         !                                                             !
         +-------------------------------------------------------------+


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

Indexes Used in Plan

If you issue the IX command on either the plan listing screen or the table listing screen, a list of all indexes used in the selected plan(s) or table(s) is displayed.

```
 16:40:56              ***** NATURAL TOOLS FOR DB2 *****           2007-10-05
  INDEXES OF PLAN SAGTEST                      S 02     Row 0 of 3 Columns 033 075
  ====>                                                 Scroll ===>   PAGE
    CREATOR   INDEX NAME    CREATOR   TABLE NAME COLCNT UNIQ CLSTRNG CLSTRD -RATI
  ** **************************** top of data ****************************
  __ SAGCRE   XDEPT1        SAGCRE    DEPT          1 P    N     Y         10
  __ SAGCRE   XEMP1         SAGCRE    EMP           1 P    Y     Y         10
  __ SAGCRE   XEMP2         SAGCRE    EMP           1 D    N     N          4
  ** **************************** bottom of data ****************************
```

Commands Allowed on Indexes

The following line commands are available on the index listing screen. Line commands are entered in front of the desired index(es):

Command	Description
I	Displays information on an index.
S	Selects an index to be used with main commands.
U	Unselects an index.
CO	Displays all columns of an index.
PT	Displays the partitions of an index.

The listings of columns displayed as a result of the CO or PT command cannot be used for further processing. Like the display resulting from the I command, they are for information purposes only.

A list of all line commands available on the index listing screen can be invoked as a window by entering the help character "?" in front of any of the listed indexes.

The commands CO and PT can be used as main commands, too, and entered in the command line of the index listing screen. If so, all columns of all indexes previously selected with the line command S are displayed.

A further main command is the INFO command, which is the equivalent of the line command I, but displays information on all previously selected indexes. Instead of being displayed, all information resulting from the I or INFO commands can also be marked for printing. Even if already displayed, information can be printed by issuing the PRINT command.

```
 16:40:56                ***** NATURAL TOOLS FOR DB2 *****            2007-10-05
  INDEXES OF PLAN SAGTEST                        S 02      Row 0 of 3 Columns 033 075
  ====>                                                        Scroll ===>   PAGE
     CREATOR   INDEX NAME    CREATOR  TABLE NAME COLCNT UNIQ CLSTRNG CLSTRD -RATI
 ** **** +----------------------------------------------------------+ **********
 I_ SAGC !                                                           !        10
 __ SAGC !                   Select what to display                  !        10
 __ SAGC !                                                           !         4
 ** **** !                                                           ! **********
         !                     _ columns  of index                   !
         !                     _ portions of index                   !
         !                     _ plans using index                   !
         !                     _ packages using index                !
         !                                                           !
         !                                                           !
         !                   Mark  _ to print output                 !
         !                                                           !
         +----------------------------------------------------------+


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

A list of all main commands available on the index listing screen can be invoked as a window by entering the help character "?" in the command line of the screen.

Package List of Plan

If you issue the PK command on the plan listing screen, a list of all entries in the package list of the selected plan(s) is displayed.

```
 16:40:56                ***** NATURAL TOOLS FOR DB2 *****            2007-10-05
  PACKAGE LIST FOR PLAN SAGTEST                   S 02      Row 0 of 3 Columns 033 075
  ====>                                                        Scroll ===>   PAGE
     PLANNAME LOCATION COLLID      NAME     SEQNO   TIMESTAMP IBM
 ** ******************** top of data ***********************
 __ SAGTEST          SAGCOLLE>   *           1 2007-10-0>N
 __ SAGTEST          SAG_STAT>   *           2 2007-10-0>N
 ** *************************** bottom of data **************
```

Commands Allowed on Package List Entries

The following line commands are available on the package list screen. Line commands are entered in front of the desired package list entry:

Command	Description
I	Displays information on a package list entry.
S	Selects a package list entry to be used with main commands.
U	Unselects a package list entry.
PK	Displays all packages of a package list entry.

The listing of packages as a result of the PK command can be used for further processing, whereas the display resulting from the I command is for information purposes only.

A list of all line commands available with a package list can be invoked as a window by entering the help character, that is, a question mark (?), in front of any of the listed entries.

The command PK can also be used as main command, which is entered in the command line of the above screen and applies to all package list entries previously selected with the line command S.

List Packages

▶ **To invoke the List Packages function**

● On the **Retrieval of System Tables** screen, enter function code K.

The collection and name of the package(s) to be listed can be specified.

If a value followed by an asterisk is specified, all packages defined in the DB2 catalog whose collections/names begin with this value are listed.

If asterisk notation is specified only, all packages defined in the DB2 catalog are listed.

Press Enter.

```
 11:06:11              ***** NATURAL TOOLS FOR DB2 *****            2007-10-05
  PACKAGE *.*                                   S 01    Row 34 of 65 Columns 041 075
  ====>                                                     Scroll ===>  PAGE
     COLLID    NAME       CONTOKEN CONTOKEN (HEX) OWNER      CREATOR   QUALIFIER
  __ SAGQCATV SAGQVPLN    ?  l?F   148C409316C673>SAG        SAG       SAG
  __ SAGQCATV SAGQVPPA    ?k  ? ?? 149270680F77E0>SAG        SAG       SAG
  __ SAGQCATV SAGQVRAS    ?   ??=? 148C409B09097E>SAG        SAG       SAG
  __ SAGQCATV SAGQVREL    ?   ??y0 148C409C06DFA8>SAG        SAG       SAG
  __ SAGQCATV SAGQVREV    ? ? ?v?  148CDFAD16A51F>SAG        SAG       SAG
  __ SAGQCATV SAGQVRIL    ?  s ?B  148C40A20329C2>SAG        SAG       SAG
  __ SAGQCATV SAGQVROO    ? ?  A y 148CDFAF03C18E>SAG        SAG       SAG
  __ SAGQCATV SAGQVSCA    ?  u??S  148C40A409DEE2>SAG        SAG       SAG
  __ SAGQCATV SAGQVSQL    ?   ???  148C40AB001D3F>SAG        SAG       SAG
  __ SAGQCATV SAGQVSTM    ?   ? 7q 148C40AD078CF7>SAG        SAG       SAG
  __ SAGQCATV SAGQVSTO    ?   ? ?  148C40B409681E>SAG        SAG       SAG
  __ SAGQCATV SAGQVTAB    ?   ? +U 148C40B61F024E>SAG        SAG       SAG
  __ SAGQCATV SAGQVTAS    ?   ?  d 148C40B80874FF>SAG        SAG       SAG
  __ SAGQCATV SAGQVTBA    ?   ?  ? 148C40BB1854EC>SAG        SAG       SAG
  __ SAGQCATV SAGQVTBC    ?   ?d ? 148C40BD1684EC>SAG        SAG       SAG
  __ SAGQCATV SAGQVTBP    ?   ?    148C40BF07AE9D>SAG        SAG       SAG
  __ SAGQCATV SAGQVTBS    ?    ??  148C40CA034928>SAG        SAG       SAG


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

Commands Allowed on Packages

The following line commands are available on the package listing screen. Line commands are entered in front of the desired package(s):

Command	Description
I	Displays information on a package.
S	Selects a package to be used with main commands.
U	Unselects a package.
AU	Displays information on access rights to a package.
IX	Displays all indexes used by a package.
SY	Displays all systems enabled or disabled for a package.
TB	Displays all tables used by a package.

The listings of indexes or tables displayed as a result of the IX or TB command can be used for further processing, whereas the displays resulting from the AU, SY, or I command are for information purposes only.

A list of all line commands available with the **List Packages** function can be invoked as a window by entering the help character, that is, a question mark (?), in front of any of the listed packages.

The commands AU, IX, SY, and TB can also be used as main commands, which are entered in the command line of the table listing screen and apply to all tables previously selected with the line command S.

The INFO main command, which is the equivalent of the I line command, displays information on all tables previously selected. All information resulting from the I or INFO commands can also be printed.

```
 11:06:11                    ***** NATURAL TOOLS FOR DB2 *****              2007-10-05
  PACKAGE *.*                                        S 01    Row 34 of 65 Columns 041 075
  ====>                                                        Scroll ===>  PAGE
     COLLID    NAME        CONTOKEN CONTOKEN (HEX) OWNER    CREATOR  QUALIFIER
  i_ SAGQ +--------------------------------------------------------+ G
  __ SAGQ !                                                        ! G
  __ SAGQ !                   Select what to display               ! G
  __ SAGQ !                                                        ! G
  __ SAGQ !          _ systems enabled or disabled for package    ! G
  __ SAGQ !          _ tables  referenced in package              ! G
  __ SAGQ !          _ indexes used in package                    ! G
  __ SAGQ !          _ statements of package                      ! G
  __ SAGQ !          _ authorizations on package                  ! G
  __ SAGQ !                                                        ! G
  __ SAGQ !                                                        ! G
  __ SAGQ !                   Mark  _ to print output              ! G
  __ SAGQ !                                                        ! G
  __ SAGQ +--------------------------------------------------------+ G
  __ SAGQCATV SAGQVTBC    ?    ?d ? 148C40BD1684EC>SAG      SAG      SAG
  __ SAGQCATV SAGQVTBP    ?    ?    148C40BF07AE9D>SAG      SAG      SAG
  __ SAGQCATV SAGQVTBS    ?     ?? 148C40CA034928>SAG       SAG      SAG

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

A list of all main commands available with the **List Packages** function can be invoked as a window by entering the help character, that is, a question mark (?), in the command line of the packages list screen.

List Tables

 ▶ **To invoke the List Tables function**

- On the **Retrieval of System Tables** screen, enter function code T.

  The creator and name of the table(s) to be listed can be specified.

  ○ If a value followed by an asterisk is specified, all tables defined in the DB2 catalog whose creator/name begins with this value are listed.

  ○ If asterisk notation is specified only, all tables defined in the DB2 catalog are listed.

  Press Enter.

```
 16:42:58              ***** NATURAL TOOLS FOR DB2 *****              2007-10-05
  TABLE SAG*.*                               S 01   Row 34 of 361 Columns 036 075
  ====>                                                     Scroll ===>  PAGE
     CREATOR   TABLE NAME    TYPE COLCOUNT KEYCOLS RECLEN DATABASE TSNAME     C
 ** ***************************** top of data *****************************
 __  SAGCRE    ACT           T          3       1     38 SAG8D22A ACT
 __  SAGCRE    DEPT          T          4       1     59 SAG8D22A SAG8S2
 __  SAGCRE    EACT          T          5       0     54 SAG8D22A SAG8S2
 __  SAGCRE    EDEPT         T          6       0     75 SAG8D22A SAG8S2
 __  SAGCRE    EEMP          T         16       0    123 SAG8D22A SAG8S2
 __  SAGCRE    EEPA          T          8       0     52 SAG8D22A SAG8S2
 __  SAGCRE    EMP           T         14       1    107 SAG8D22A SAG8S2
 __  SAGCRE    EMPPROJACT    T          6       0     36 SAG8D22A EMPPRO
 __  SAGCRE    EPROJ         T         10       0     86 SAG8D22A SAG8S2
 __  SAGCRE    EPROJACT      T          7       0     45 SAG8D22A SAG8S2
 __  SAGCRE    PROJ          T          8       1     70 SAG8D22A PROJ
 __  SAGCRE    PROJACT       T          5       3     29 SAG8D22A PROJAC
 __  SAGCRE    TCONA         T          5       0   4056 SAG8D22P SAG8S2
 __  SAGCRE    TDSPTXT       T          3       0     91 SAG8D22P SAG8S2
 __  SAGCRE    TOPTVAL       T         11       0    354 SAG8D22P SAG8S2
 __  SAGCRE    VACT          V          3       0      0 SAG8D22A ACT


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

Commands Allowed on Tables

The following line commands are available on the table listing screen. Line commands are entered in front of the desired table(s):

Command	Description
I	Displays information on a table.
S	Selects a table to be used with main commands.
U	Unselects a table.
AU	Displays information on access rights to a table.
CO	Displays all columns of a table.
IX	Displays all indexes on a table.
CC	Checks constraints.

The listings of indexes displayed as a result of the IX command can be used for further processing, whereas the listings of columns resulting from the CO command, as well as the displays resulting from the AU or I command, are for information purposes only.

A list of all line commands available with the **List Tables** function can be invoked as a window by entering the help character, that is, a question mark (?), in front of any of the listed tables.

The commands AU, CO, and IX can also be used as main commands, which are entered in the command line of the table listing screen and apply to all tables previously selected with the line command S.

The INFO main command, which is the equivalent of the I line command, displays information on all tables previously selected. All information resulting from the I or INFO commands can also be printed.

```
 16:42:58                  ***** NATURAL TOOLS FOR DB2 *****            2007-10-05
  TABLE SAG*.*                                  S 01   Row 34 of 361 Columns 036 075
 ====>                                                          Scroll ===>  PAGE
     CREA +-----------------------------------------------------------+        C
 ** **** !                                                           ! **********
 I_ SAGC !                                                           !
 __ SAGC !                   Select what to display                  ! S2
 __ SAGC !                                                           ! S2
 __ SAGC ! _ columns  of table/view    _ referential constraints  ! S2
 __ SAGC ! _ synonyms of table/view    _ authorized  users        ! S2
 __ SAGC ! _ plans    using table/view                            ! S2
 __ SAGC ! _ packages using table/view _ indexes  of table        ! S2
 __ SAGC ! _ views    using table/view _ columns  of indexes      ! RO
 __ SAGC ! _ base tables of view        _ plans using indexes      ! S2
 __ SAGC ! _ definition  of view        _ packages using indexes   ! S2
 __ SAGC ! _ check conditions of table                            !
 __ SAGC !                                                          ! AC
 __ SAGCR!                   Mark _ to print output                ! S2
 __ SAGCR+-----------------------------------------------------------+ S2
 __ SAGCRE  TOPTVAL      T         11       0    354 SAG8D22P SAG8S2
 __ SAGCRE  VACT         V          3       0      0 SAG8D22A ACT

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

A list of all main commands available with the **List Tables** function can be invoked as a window by entering the help character, that is, a question mark (?), in the command line of the table listing screen.

User Authorizations

▶ **To invoke the User Authorization function**

- On the **Retrieval of System Tables** screen, enter function code U and press Enter.

  The **Retrieval of User Authorizations** menu is displayed:

```
   16:44:51              ***** NATURAL TOOLS FOR DB2 *****           2007-10-05
                        - Retrieval of User Authorizations -



                  Code Function               Parameter

                   C   Column   Authorizations Grantee
                   D   Database Authorizations Grantee
                   K   Package  Authorizations Grantee
                   P   Plan     Authorizations Grantee
                   R   Resource Authorizations Grantee
                   T   Table    Authorizations Grantee
                   U   User     Authorizations Grantee
                   ?   Help
                   .   Exit


              Code .. _   Grantee .. _____


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

The following functions are available:

Code	Description
C	Displays the columns which can be accessed by the specified grantee.
D	Displays the databases which can be accessed by the specified grantee.
K	Displays the packages which can be accessed by the specified grantee.
P	Displays the plans which can be accessed by the specified grantee.
R	Displays the resources which can be accessed by the specified grantee.
T	Displays the tables which can be accessed by the specified grantee.
U	Displays the system privileges of the specified grantee.

The following parameter must be specified:

Parameter	Description
Grantee	A list of all existing DB2 objects of the specified object type to which the specified grantee has access is displayed.

List Statistic Tables

▶ **To invoke the List Statistic Tables function**

- On the **Retrieval of System Tables** screen, enter function code S and press Enter.

  The **Retrieval of Statistic Tables** menu is displayed:

```
  16:38:47                ***** NATURAL TOOLS FOR DB2 *****              2007-10-05
                             - Retrieval of Statistic Tables -


                      Code Function              Parameter

                       C   List SYSCOLSTATS      Creator, Name
                       D   List SYSCOLDISTSTATS  Creator, Name
                       I   List SYSINDEXSTATS    Index Owner, Name
                       T   List SYSTABSTATS      Creator, Name
                       ?   Help
                       .   Exit

                Code .. _    Index Owner .........  _____
                             Index Name ..........  _____
                             Table Creator .......  _____
                             Table Name ..........  _____




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

The following functions are available:

Code	Description
C	Displays the partitioned statistics for columns in a partitioned table space.
D	Displays the distribution of the values of the first column of a partitioned index.
I	Displays the statistics for a partitioned index.
T	Displays the statistics for a partitioned table space.

The following parameters must be specified:

Parameter	Description
Table Creator	The name of the creator of the table for which the statistics are to be displayed.
Table Name	The name of the table for which the statistics are to be displayed.
Index Owner	The name of the owner of the index for which the index statistics are to be displayed.
Index Name	The name of the index for which the index statistics are to be displayed.