SQL*Plus Quick Reference

This quick reference shows the syntax for SQL*Plus commands. For detailed information on each command, refer to the SQL*Plus User’s Guide and Reference.
Conventions for Command Syntax

The following two tables describe the notation and conventions for command syntax used in this quick reference.

_commands, Terms, and Clauses

<table>
<thead>
<tr>
<th>Feature</th>
<th>Example</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>uppercase boldface</td>
<td>BTITLE</td>
<td>Enter text exactly as spelled; it need not be in uppercase.</td>
</tr>
<tr>
<td>lowercase italics</td>
<td>column</td>
<td>A clause value; substitute an appropriate value.</td>
</tr>
<tr>
<td>words with specific meanings</td>
<td>c</td>
<td>A single character.</td>
</tr>
<tr>
<td>char</td>
<td>A CHAR value—a literal in single quotes—or an expression with a CHAR value.</td>
<td></td>
</tr>
<tr>
<td>d or e</td>
<td>A date or an expression with a DATE value.</td>
<td></td>
</tr>
<tr>
<td>expr</td>
<td>An unspecified expression.</td>
<td></td>
</tr>
<tr>
<td>m or n</td>
<td>A number of an expression with a NUMBER value.</td>
<td></td>
</tr>
<tr>
<td>text</td>
<td>A CHAR constant with or without single quotes.</td>
<td></td>
</tr>
<tr>
<td>variable</td>
<td>A user variable (unless the text specifies another variable type).</td>
<td></td>
</tr>
</tbody>
</table>

Other words are explained where used if their meaning is not explained by context.
Punctuation

<table>
<thead>
<tr>
<th>Feature</th>
<th>Example</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>vertical bar</td>
<td></td>
<td>Separates alternative syntax elements that may be optional or mandatory.</td>
</tr>
<tr>
<td>brackets</td>
<td>[OFF ON]</td>
<td>One or more optional items. If two items appear separated by</td>
</tr>
<tr>
<td>braces</td>
<td>{OFF ON}</td>
<td>A choice of mandatory items; enter one of the items separated by</td>
</tr>
<tr>
<td>underlining</td>
<td>{OFF ON}</td>
<td>A default value; if you enter nothing, SQL*Plus assumes the underlined value.</td>
</tr>
<tr>
<td>ellipsis</td>
<td>n ...</td>
<td>Preceding item(s) may be repeated any number of times.</td>
</tr>
</tbody>
</table>

Enter other punctuation marks (such as parentheses) where shown in the command syntax.

Starting and Leaving SQL*Plus

Use the following commands to log in to and out of SQL*Plus.

```
SQLPLUS [[-SILENT]] [logon] [start] |-
```

Starts SQL*Plus from the operating system prompt.

- `logon` Requires the following syntax:
  ```
  username[/password][@database_spec] | / | /NOLOG
  ```
- `start` Requires the following syntax:
  ```
  @file_name[.ext] [arg ...]
  ```
- `(EXIT|QUIT) [SUCCESS|FAILURE|WARNING|n|variable] [COMMIT|ROLLBACK]`
Commits all pending changes, terminates SQL*Plus, and returns control to the operating system.

**Entering and Executing Commands**

Use the following commands to execute and collect timing statistics on SQL commands and PL/SQL blocks.

/ (slash)

Executes the SQL command or PL/SQL block currently stored in the SQL buffer. Does not list the command.

EXECUTE statement

Executes a single PL/SQL statement.

RUN

Lists and executes the SQL command or PL/SQL block currently stored in the SQL buffer.

TIMING [START text | SHOW | STOP]

Records timing data for an elapsed period of time, lists the current timer’s name and timing data, or lists the number of active timers.

Use the following command to access the help system.

HELP [topic]

Accesses help on SQL*Plus commands, PL/SQL statements, and SQL statements.

Use the following command to execute host operating system commands.

HOST [command]

Executes a host operating system command without leaving SQL*Plus.

**Note:** With some operating systems, you can use a “$” (VMS), “!” (UNIX) or another character instead of HOST. See the Oracle installation and user’s manual(s) provided for your operating system for details.

Use the following command to run a SQL*Forms form from within SQL*Plus.
RUNFORM \[options\] form_name

Invokes a SQL*Forms application from within SQL*Plus.

### Manipulating SQL, SQL*Plus, and PL/SQL Commands

Use the following commands to edit SQL commands and PL/SQL blocks.

**APPEND** text

Adds specified text to the end of the current line in the SQL buffer. To separate text from the preceding characters with a space, enter two spaces between APPEND and text. To append text that ends with a semicolon, end the command with two semicolons (SQL*Plus interprets a single semicolon as a command terminator).

**CHANGE** sepchar old [sepchar new [sepchar]]

Changes text on the current line in the SQL buffer. You can use any non-alphanumeric character such as "/" or "!" as a sepchar. You can omit the space between CHANGE and the first sepchar.

**DEL** [n|m n*|n LAST|* n|* LAST|LAST]

Deletes one or more lines of the buffer ("*" indicates the current line). You can omit the space between DEL and n or *, but not between DEL and LAST. Enter DEL with no clauses to delete the current line of buffer.

**INPUT** [text]

Adds one or more new lines of text after the current line in the buffer.

**LIST** [n|m n*|n LAST|* n|* LAST|LAST]

Lists one or more lines of the buffer ("*" indicates the current line). You can omit the space between LIST and n or *, but not between LIST and LAST. Enter LIST with no clauses to list all lines.
Use the following commands to create and modify command files.

@ file_name[.ext] [arg ...]

Runs the specified command file. Specified arguments are substituted for &1, &2, etc.

@@ file_name[.ext]

Runs the specified nested command file.

ED[IT] [file_name[.ext]]

Invokes a host operating system text editor on the contents of the specified file or on the contents of the SQL buffer. To edit the buffer contents, omit the file name.

GET file_name[.ext] [LIST|NOLIST]

Loads a host operating system file into the SQL buffer.

REM[ARK]

Begins a comment in a command file. The REMARK command must appear at the beginning of a line, and the comment ends at the end of the line (a line cannot contain both a comment and a command). SQL*Plus does not interpret the comment as a command.

SAVE file_name[.ext] [CREATE|REPLACE|APPEND]

Saves contents of the buffer into a host operating system file (a command file).

STORE {SET} file_name[.ext] [CREATE|REPLACE|APPEND]

Saves the attributes of the current SQL*Plus environment in a host operating system file (a command file).

START file_name[.ext] [arg ...]

Executes the contents of the specified command file. Specified arguments are substituted for &1, &2, etc.

WHENEVER OSERROR {EXIT [SUCCESS|FAILURE|n|variable] [COMMIT|ROLLBACK] | CONTINUE [COMMIT|ROLLBACK|NONE]}

Exits SQL*Plus if an operating system error occurs (such as a file I/O error).
WHENEVER SQLERROR {EXIT [SUCCESS|FAILURE|WARNING| n|variable] [COMMIT|ROLLBACK] CONTINUE 
[COMMIT|ROLLBACK|NONE]}

Exits SQL*Plus if a SQL command or PL/SQL block generates an error.

Use the following commands to write interactive commands.

**ACC[CEPT]** variable [NUM[BER]|CHAR|DATE] 
[FOR[MAT] format] [DEF[AULT] default] 
[PROMPT text|NOPR[OMP]] [HIDE]

Reads a line of input and stores it in a given user variable.

**DEF[INE]** [variable] [variable = text]

Specifies a user variable and assigns it a CHAR value. Alternatively, lists the value and variable type of a single variable or all variables.

**PAU[SE]** [text]

Displays an empty line followed by a line containing text, then waits for the user to press [Return]. Alternatively, displays two empty lines and waits for the user’s response.

**PROMPT** [text]

Sends the specified message or a blank line to the user’s screen.

**UNDEF[INE]** variable ...

Deletes given user variables that you defined either explicitly (with the DEFINE command) or implicitly (with an argument to the START command).

Use the following commands to create and display bind variables.

**PRI[NT]** [variable ...]

Displays the current values of bind variables.

**VAR[IABLE]** [variable (NUMBER|CHAR|CHAR (n) | VARCHAR2 (n) | REFCURSOR)]

Declares a bind variable which can then be referenced in PL/SQL. If no arguments are supplied, VARIABLE lists all declared bind variables.
Use the following symbols to create substitution variables and parameters for use in command files.

\&n  Specifies a parameter in a command file you run using the START command. START substitutes values you list after the command file name as follows: the first for \&1, the second for \&2, etc.

\&user_variable,  Indicates a substitution variable in a SQL or SQL*Plus command. SQL*Plus substitutes the value of the specified user variable for each substitution variable it encounters. If the user variable is undefined, SQL*Plus prompts you for a value each time an “\&” variable is found, and the first time an “&&” variable is found.

. (period)  Terminates a substitution variable followed by a character that would otherwise be part of the variable name.

---

### Formatting Query Results

Use the following commands to format, store and print your query results.

**BREAK [ON report_element [action [action]]] ...**

Specifies where and how formatting will change in a report (e.g., skipping a line each time a given column value changes). Enter BREAK with no clauses to list the current BREAK definition.

- **report_element** Requires the following syntax:
  - \{column|expr|ROW|REPORT\}

- **action** Requires the following syntax:
  - [SKI[P] n|SKI[P]] PAGE [NODUP[LICATES]|DUP[LICATES]]

**BTITLE [printspec [text|variable] ...] [OFF|ON]**

Places and formats the specified title at the bottom of each report page, or lists the current BTITLE definition. See TTITLE for additional information on valid printspec clauses.
CL[EAR]  option ...

Resets or erases the current value or setting for the
specified option; option represents one of the following
clauses:

  BRE[AKS]
  BUFF[ER]
  COL[UMNS]
  COMP[UTES]
  SCR[REEN]
  SQL
  TIMI[NG]

COL[UMN]  [{column|expr}  [option ...]]

Specifies the display attributes for a given column, such as
text for the column heading, or formats for LONG, CHAR,
VARCHAR2 (VARCHAR), and NUMBER data; option
represents one of the following clauses:

  ALI[AS]  alias
  CLE[AR]
  FOLD_A[FTER]
  FOLD_B[FORE]
  FOR[MAT]  format
  HEA[DING]  text
  LIKE  {expr|alias}
  NEWL[INE]
  NEW_V[ALUE]  variable
  NOPRI[NT]|PRI[NT]
  NUL[L]  text
  OLD_V[ALUE]  variable
  ON|OFF
  WRA[PED]|WOR[D_WRAPPED]|TRU[NCATED]

Enter COLUMN followed by column or expr and no other
clauses to list the current display attributes for only the
specified column or expression. Enter COLUMN with no
clauses to list all current column display attributes.

Enter FORMAT followed by the appropriate format
element to specify the display format for the column. To
change the width of a CHAR, VARCHAR2 (VARCHAR),
LONG, or Trusted Oracle column to n, use FORMAT An.
(A stands for alphanumerically.)
To change the display format of a NUMBER column, use FORMAT followed by one of the elements in the following table:

<table>
<thead>
<tr>
<th>Element</th>
<th>Example(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9999</td>
<td>Number of “9”s specifies number of significant digits returned. Blanks are displayed for leading zeroes and for a value of zero.</td>
</tr>
<tr>
<td>0</td>
<td>0999</td>
<td>Displays a leading zero or a value of zero in this position as a 0, rather than as a blank.</td>
</tr>
<tr>
<td>$</td>
<td>$9999</td>
<td>Prefixes value with dollar sign.</td>
</tr>
<tr>
<td>B</td>
<td>B9999</td>
<td>Displays a zero value as blank, regardless of “0”s in the format model.</td>
</tr>
<tr>
<td>MI</td>
<td>9999MI</td>
<td>Displays “–” after a negative value. For a positive value, a trailing space is displayed.</td>
</tr>
<tr>
<td>S</td>
<td>S9999</td>
<td>Returns “+” for positive values and “–” for negative values in this position.</td>
</tr>
<tr>
<td>PR</td>
<td>9999PR</td>
<td>Displays a negative value in &lt;angle brackets&gt;. For a positive value, a leading and trailing space is displayed.</td>
</tr>
<tr>
<td>D</td>
<td>99D99</td>
<td>Displays the decimal character in this position, separating the integral and fractional parts of a number.</td>
</tr>
<tr>
<td>G</td>
<td>9G999</td>
<td>Displays the group separator in this position.</td>
</tr>
<tr>
<td>C</td>
<td>C999</td>
<td>Displays the ISO currency symbol in this position.</td>
</tr>
<tr>
<td>L</td>
<td>L999</td>
<td>Displays the local currency symbol in this position.</td>
</tr>
<tr>
<td>, (comma)</td>
<td>9,999</td>
<td>Displays a comma in this position.</td>
</tr>
<tr>
<td>. (period)</td>
<td>99.99</td>
<td>Displays a period (decimal point) in this position, separating the integral and fractional parts of a number.</td>
</tr>
<tr>
<td>V</td>
<td>9999V99</td>
<td>Multiplies value by $10^9$, where $n$ is the number of “9’s” after the “V.”</td>
</tr>
<tr>
<td>EEEE</td>
<td>9.999EEE</td>
<td>Displays value in scientific notation (format must contain exactly four “E’s”).</td>
</tr>
</tbody>
</table>
### Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>Example(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RN or rn</td>
<td>RN</td>
<td>Displays upper- or lowercase Roman numerals. Value can be an integer between 1 and 3999.</td>
</tr>
<tr>
<td>DATE</td>
<td>DATE</td>
<td>Displays value as a date in MM/DD/YY format; used to format NUMBER columns that represent Julian dates.</td>
</tr>
</tbody>
</table>

### COMPUTE [function [LABEL] text] ...

**OF** (expr|column|alias) ...  
**ON** (expr|column|alias|REPORT|ROW) ...]

Calculates and prints summary lines, using various standard computations, on subsets of selected rows. Or, lists all COMPUTE definitions. The following table lists valid functions. All functions except NUMBER apply to non-null values only.

<table>
<thead>
<tr>
<th>Function</th>
<th>Computes</th>
<th>Applies to Datatypes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVG</td>
<td>Average of non-null values</td>
<td>NUMBER</td>
</tr>
<tr>
<td>COUNT</td>
<td>Count of non-null values</td>
<td>All types</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>Maximum value</td>
<td>NUMBER, CHAR, VARCHAR2 (VARCHAR)</td>
</tr>
<tr>
<td>MINIMUM</td>
<td>Minimum value</td>
<td>NUMBER, CHAR, VARCHAR2 (VARCHAR)</td>
</tr>
<tr>
<td>NUMBERS</td>
<td>Count of rows</td>
<td>All types</td>
</tr>
<tr>
<td>STD</td>
<td>Standard deviation of non-null values</td>
<td>NUMBER</td>
</tr>
<tr>
<td>SUM</td>
<td>Sum of non-null values</td>
<td>NUMBER</td>
</tr>
<tr>
<td>VARIANCE</td>
<td>Variance of non-null values</td>
<td>NUMBER</td>
</tr>
</tbody>
</table>

### REPFOOTER [PAGE] [printspec [text|variable] ...] | [OFF|ON]

Places and formats a specified report footer at the bottom of each report, or lists the current REPFOOTER definition. See REPHEADER for additional information on valid printspec clauses.
REPH[HEADER] [PAGE] [printspec [text|variable] ...] | [OFF|ON]

Places and formats a specified report header at the top of each report, or lists the current REPHEADER definition. Use one of the following clauses in place of printspec:

COL n
S[KIP] [n]
TAB n
LE[FT]
CE[NTER]
R[IGHT]
BOLD
FORMAT text

SPOOL [filename|.ext] [OFF|OUT]

Stores query results in an operating system file and, optionally, sends the file to a printer. OFF stops spooling. OUT stops spooling and sends the file to your host computer’s standard (default) printer. Enter SPOOL with no clauses to list the current spooling status.

TTITLE [printspec [text|variable] ...] | [OFF|ON]

Places and formats a specified title at the top of each report page, or lists the current TTITLE definition. Use one of the following clauses in place of printspec:

COL n
S[KIP] [n]
TAB n
LE[FT]
CE[NTER]
R[IGHT]
BOLD
FORMAT text
Accessing Databases

Use the following commands to access and copy data between tables on different databases.

**CONNECT** \[username[/password][@database_spec] ]/

Connects a given username to Oracle. If you omit `database_spec`, connects you to the default database. If you omit `username` and/or `password`, SQL*Plus prompts for them. CONNECT followed by a slash (/) connects you using a default (ops$) logon.

**DISCONNECT**

Commits pending changes to the database and logs the current username off Oracle, but does not exit SQL*Plus.

**COPY** {FROM username[/password]@database_spec | TO username[/password]@database_spec | FROM username[/password]@database_spec TO username[/password]@database_spec | {APPEND|CREATE|INSERT|REPLACE} destination_table [(column, column ...)] USING query

Copies data from one Oracle database to a table in another. APPEND, CREATE, INSERT, or REPLACE specifies how COPY treats the existing copy of the destination table (if it exists). USING `query` identifies the source table and determines which rows and columns COPY copies from it.

Miscellaneous

**DESCRIBE** \[[user.]table[@database_link_name] [column] | [user.]object[.subobject]\]

Lists the column definitions for the specified table, view, or synonym or the specifications for the specified function or procedure.

**SET system_variable value**

Sets a system variable to alter the SQL*Plus environment for your current session, such as setting the display width
for NUMBER data or the number of lines per page. Enter a system variable followed by a value as shown below:

```
APP[INFO] {ON|OFF|text}
ARRAY[SIZE] {20 | n}
AUTO[COMMIT] {OFF|ON|IMM[EDIATE]|n}
AUTO[PRINT] {OFF|ON}
AUTO[RACE] {OFF|ON|TRACE[ONLY]|EXP[LAIN]|STATISTICS}
BLOC KTERMINATOR] {c|text}
CLOSECURSOR] {OFF|ON}
CMDS[EP] {; | OFF|ON}
COLSEP {text}
COMPATIBILITY] {V6|V7|NATIVE}
CON[CAT] {c|OFF|ON}
COPY[COMMIT] {0|n}
COPYTYPECHECK {OFF|ON}
CRT crt
DEF[INE] {'&'|text}
ECHO {OFF|ON}
EDIT[ILE] file_name[.ext]
EMBEDDED {OFF|ON}
ESC[APE] {OFF|ON}
FEED[BACK] {OFF|ON}
FLAGGER {OFF|ENTRY|INTERMED|FULL}
FLUSH {OFF|ON}
HEADING] {OFF|ON}
HEADSEP {c|OFF|ON}
LINESIZE] {80 | n}
LONG {80 | n}
LONGC[HUNKSIZE] {80 | n}
MAXD[ATA] n
NEWPAGE] {1 | n}
NULL text
NUMF[ORMAT] format
NUM[WIDTH] {10 | n}
PAGESIZE] {24 | n}
PAUSE] {OFF|ON|text}
RECSEP {WRAPPED|EA[CH]|OFF}
RECSEP[CHAR] {c|text}
SERVEROUT[PUT] {OFF|ON} [SIZE n] [FOR[MAT]
  {WRAPPED|WRAPPED|TRU[NCATED]}
SHOW[MODE] {OFF|ON}
SQL[CONTINUE] {> | text}
```
SHOW [option]

Lists the value of a SQL*Plus system variable. Use one of the following terms or clauses in place of option:

system_variable
ALL
APPINFO
BTITLE
ERRORS [FUNCTION|PROCEDURE|PACKAGE
   |PACKAGE BODY|TRIGGER|VIEW]
   [schema.]name
LABEL
LNO
PNO
RELEASE
REFFOOTER
REPHEADER
SPOOL
SQLCODE
TITLE
USER

Enter any system variable set by the SET command in place of system_variable.
SQL Command List

SQL commands were formerly documented in SQL*Plus documentation. You should now refer to the Oracle7 Server SQL Language Reference Manual for full documentation of these commands and clauses. Below is a list of major SQL commands:

<table>
<thead>
<tr>
<th>Command</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALTER</td>
<td>LOCK TABLE</td>
</tr>
<tr>
<td>ANALYZE*</td>
<td>NOAUDIT</td>
</tr>
<tr>
<td>AUDIT</td>
<td>RENAME</td>
</tr>
<tr>
<td>COMMENT</td>
<td>REVOKE</td>
</tr>
<tr>
<td>COMMIT</td>
<td>ROLLBACK</td>
</tr>
<tr>
<td>CREATE</td>
<td>SAVEPOINT</td>
</tr>
<tr>
<td>DELETE</td>
<td>SELECT</td>
</tr>
<tr>
<td>DROP</td>
<td>SET ROLE*</td>
</tr>
<tr>
<td>EXPLAIN</td>
<td>SET TRANSACTION</td>
</tr>
<tr>
<td>GRANT</td>
<td>TRUNCATE*</td>
</tr>
<tr>
<td>INSERT</td>
<td>UPDATE</td>
</tr>
</tbody>
</table>

* Requires Oracle7
Reader’s Comment Form

Name of Document: SQL*Plus® Quick Reference
Part No. A42561–1

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• Is the information clearly presented?
• Do you need more information? If so, where?
• Are the examples correct? Do you need more examples?
• What features did you like most about this manual?

If you find any errors or have any other suggestions for improvement, please indicate the topic, chapter, and page number below:

______________________________________________________________________________
______________________________________________________________________________
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______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Please send your comments to:

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If you would like a reply, please give your name, address, and telephone number below:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

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