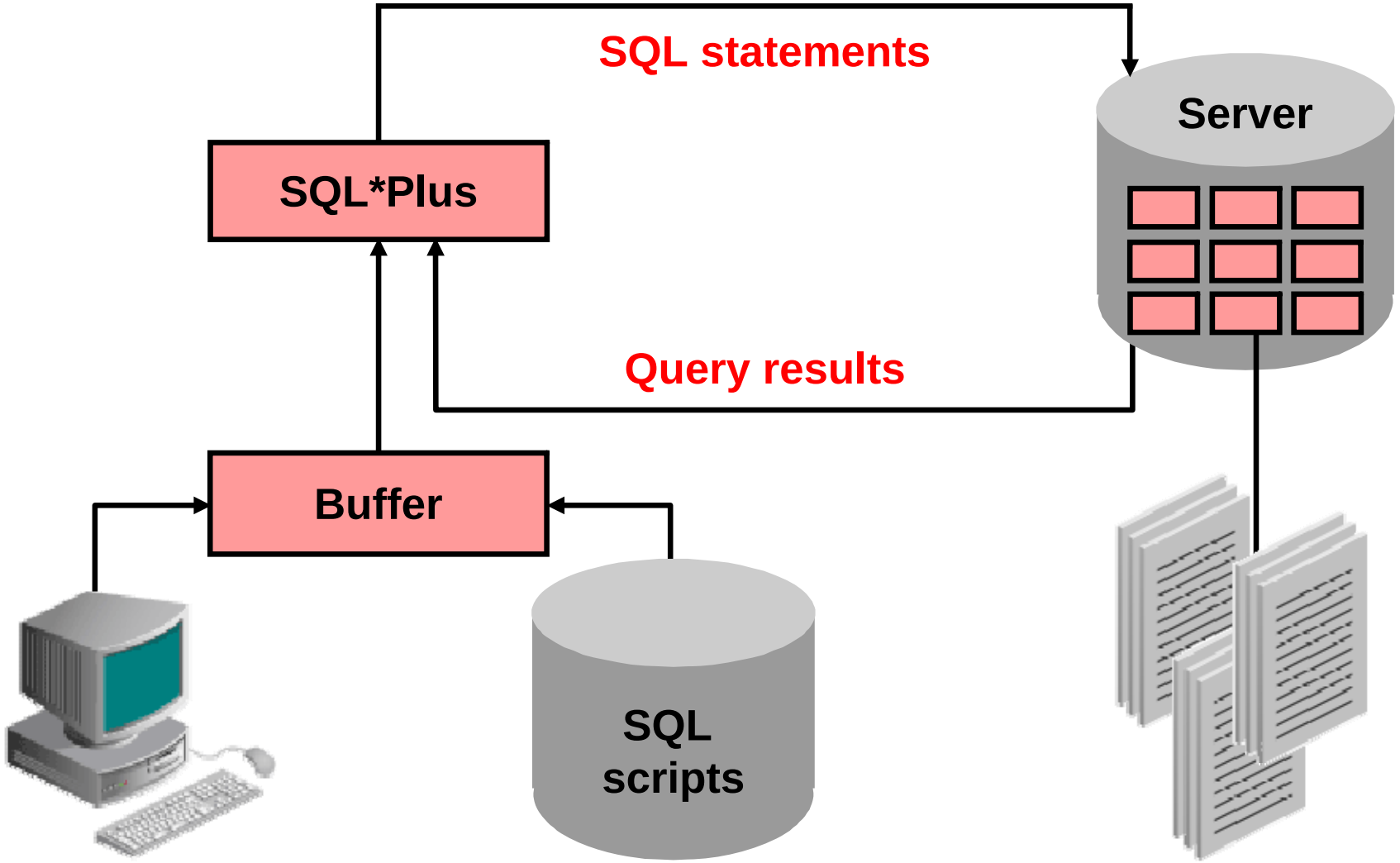
Using SQL*Plus

Objectives

After completing this appendix, you should be able to do the following:

- Log in to SQL*Plus
- Edit SQL commands
- Format the output using SQL*Plus commands
- Interact with script files

SQL and SQL*Plus Interaction



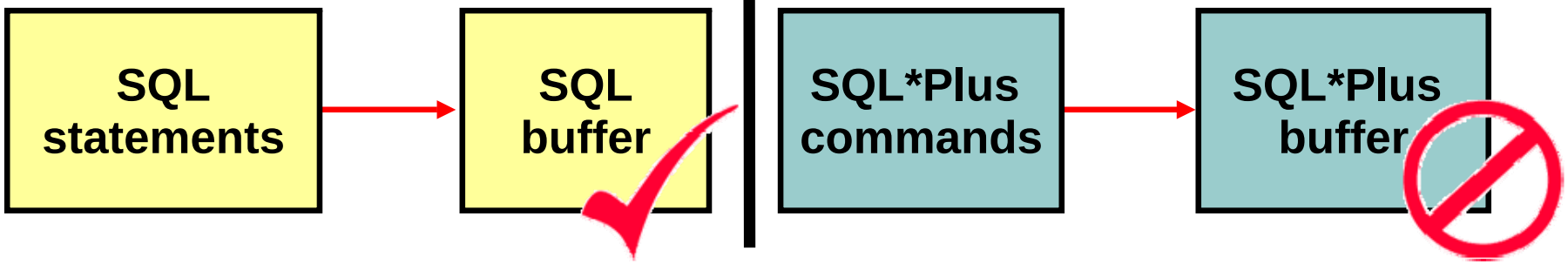
SQL Statements Versus SQL*Plus Commands

SQL

- A language
- ANSI-standard
- Keywords cannot be abbreviated.
- Statements manipulate data and table definitions in the database.

SQL*Plus

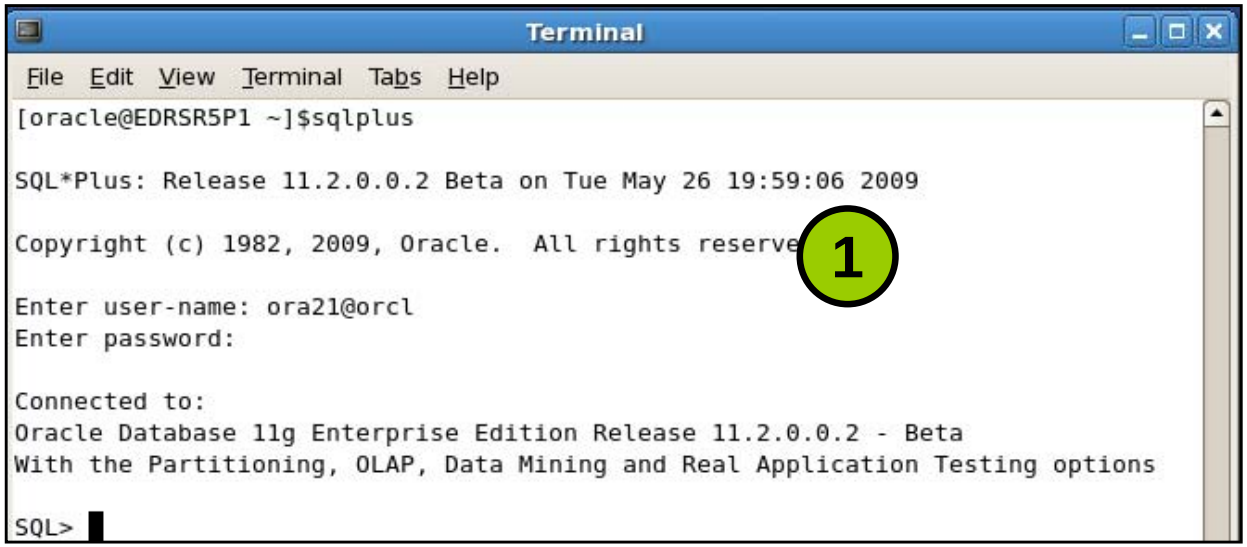
- An environment
- Oracle-proprietary
- Keywords can be abbreviated.
- Commands do not allow manipulation of values in the database.



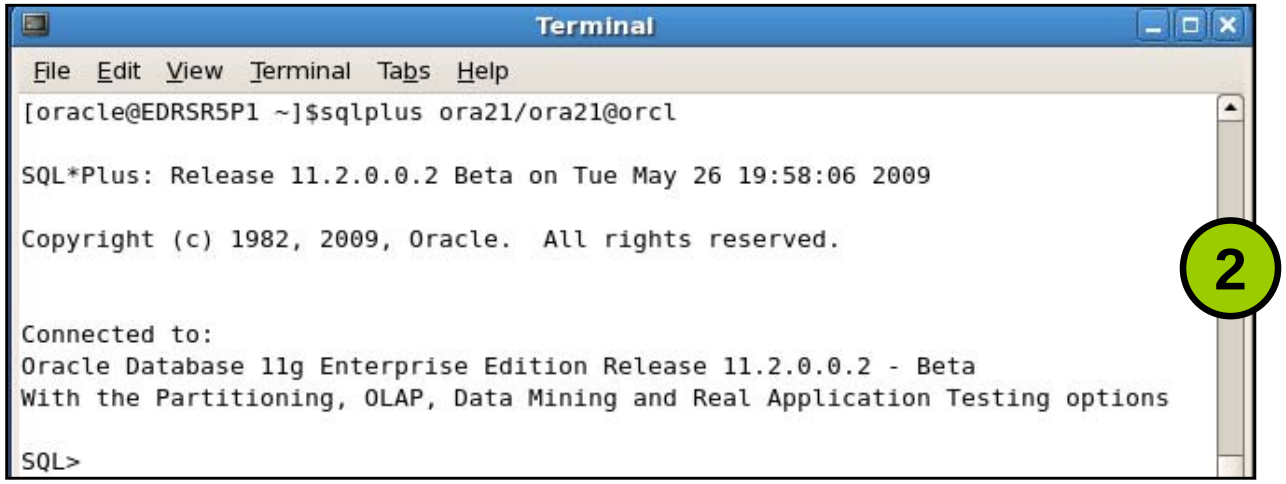
Overview of SQL*Plus

- Log in to SQL*Plus.
- Describe the table structure.
- Edit your SQL statement.
- Execute SQL from SQL*Plus.
- Save SQL statements to files and append SQL statements to files.
- Execute saved files.
- Load commands from the file to buffer to edit.

Logging In to SQL*Plus




```
sqlplus [username[/password[@database]]]
```



Displaying the Table Structure

Use the SQL*Plus `DESCRIBE` command to display the structure of a table:

```
DESC[RIBE]  tablename
```

Displaying the Table Structure

```
DESCRIBE departments
```

```
Name                          Null?    Type
----------------------------- -------- -------------
DEPARTMENT_ID                 NOT NULL NUMBER(4)
DEPARTMENT_NAME               NOT NULL VARCHAR2(30)
MANAGER_ID                    NUMBER(6)
LOCATION_ID                   NUMBER(4)
```

SQL*Plus Editing Commands

- A[PPEND] *text*
- C[HANGE] / *old* / *new*
- C[HANGE] / *text* /
- CL[EAR] BUFF[ER]
- DEL
- DEL *n*
- DEL *m n*

SQL*Plus Editing Commands

- I[NPUT]
- I[NPUT] *text*
- L[IST]
- L[IST] *n*
- L[IST] *m n*
- R[UN]
- *n*
- *n text*
- 0 *text*

Using LIST, n, and APPEND

```
LIST
  1  SELECT last_name
  2* FROM   employees
```

```
1
  1* SELECT last_name
```

```
A , job_id
  1* SELECT last_name, job_id
```

```
LIST
  1  SELECT last_name, job_id
  2* FROM   employees
```

Using the CHANGE Command

```
LIST
  1* SELECT * from employees
```

```
c/employees/departments
  1* SELECT * from departments
```

```
LIST
  1* SELECT * from departments
```

SQL*Plus File Commands

- SAVE *filename*
- GET *filename*
- START *filename*
- @ *filename*
- EDIT *filename*
- SPOOL *filename*
- EXIT

Using the SAVE, START Commands

```
LIST
  1  SELECT last_name, manager_id, department_id
  2* FROM employees
```

```
SAVE my_query
  Created file my_query
```

```
START my_query

LAST_NAME                 MANAGER_ID DEPARTMENT_ID
------------------------- ---------- -------------
King                                           90
Kochhar                          100           90
...
107 rows selected.
```

SERVEROUTPUT Command

- Use the SET SERVEROUT[PUT] command to control whether to display the output of stored procedures or PL/SQL blocks in SQL*Plus.
- The DBMS_OUTPUT line length limit is increased from 255 bytes to 32767 bytes.
- The default size is now unlimited.
- Resources are not preallocated when SERVEROUTPUT is set.
- Because there is no performance penalty, use UNLIMITED unless you want to conserve physical memory.

```
SET SERVEROUT[PUT] {ON | OFF} [SIZE {n | UNL[IMITED]}]
    [FOR[MAT] {WRA[PPED] | WOR[D_WRAPPED] | TRU[NCATED]}]
```

Using the SQL*Plus SPOOL Command

```
SPO[OL] [file_name[.ext] [CRE[ATE] | REP[LACE] |
    APP[END]] | OFF | OUT]
```

Option	Description
file_name[.ext]	Spools output to the specified file name
CRE[ATE]	Creates a new file with the name specified
REP[LACE]	Replaces the contents of an existing file. If the file does not exist, REPLACE creates the file.
APP[END]	Adds the contents of the buffer to the end of the file you specify
OFF	Stops spooling
OUT	Stops spooling and sends the file to your computer's standard (default) printer

Using the AUTOTRACE Command

- It displays a report after the successful execution of SQL DML statements such as SELECT, INSERT, UPDATE, or DELETE.
- The report can now include execution statistics and the query execution path.

```
SET AUTOT[RACE] {ON | OFF | TRACE[ONLY]} [EXP[LAIN]]
    [STAT[ISTICS]]
```

```
SET AUTOTRACE ON
-- The AUTOTRACE report includes both the optimizer
-- execution path and the SQL statement execution
-- statistics
```

Summary

In this appendix, you should have learned how to use SQL*Plus as an environment to do the following:

- Execute SQL statements
- Edit SQL statements
- Format the output
- Interact with script files