To begin with SQL*Plus

1 – Connect to Remote Database

Connect SQLPLUS command can be used to connect a user to any local or remote database if SQL*NET and appropriate driver is installed.

2 – SQL Commands and Command File

One or more SQL commands make a command file, usually named with .sql extension.

a) Two ways of Running a SQL Command File

```
SQL > start  command_file_name    -- No extension needed if the file is extended with .sql
SQL > @command_file_name
```

b) Run command File Substitution Variable

```
SQL > start command_file  arg1  arg2
```

assuming that the command file has two substitution variables named as 1 and 2 and prefixed with &.

c) Rerun the commands in the Buffer

After you run a SQL command file, the command(s) are stored in buffer. To run the command again, you can

```
SQL > run
SQL > /
```

d) Save current buffer into file

```
SAV[E]  file_name[.ext] CRE[ATE] |  REP[LACE] | APP[END]
```

e) Modify current buffer

l to list the buffer, line_number to set a specific line to be the current one, c to substitute, I to insert a line, a to append a string to the current line, del to delete a line.
Use 'edit' to load an editor.

3 – Interacting with User

You can use a substitution variable to accept value from user in interactive SQL.

a) Define a Substitution Variable:

```
SQL > DEFINE  supName = John
```

b) How to use variable in the SQL statement?

The substitution variables in SQL statements must be prefixed with & sign.

c) Use Undefined Variables

You will be prompt automatically for values for each of the variables used in the statement when the statement is executed. While the defined variable in the SQL statement will use the value you gave to the variable previously until you have the value by DEFINE, UNDEFINE or ACCEPT command is applied to the variable.

d) Use Number as Substitution Variable

When numbers used as user variables in a SQL file, the arguments passed to the command file will replace the number substitution variables.

e) Concatenated Variable with Other Alpha-numeric characters

Use the . operator.

f) Prompt User

Use PROMPT command followed by text without included in single quotes.

4 – Environment Variables

a) Change Page Size

```
SQL > set pagesize  20            -- set page size
SQL > set linesize    100     -- 100 column per line.
```

b) Set Underline Character

In the table heading, each field name is underlined. The default the under line character is -

```
SQL > set  underline =
```

c) Set Record Separator

The records from select statement can be separated by a line of character :

```
SQL > SET  RECSEPCHAR '-'     -- records may be separated by a line of  -
```

Whether the record will be separated is determined by the value of another variable, called record separator.

```
SQL > SET RECSEP WRAPPED  -- a record separating line will be printed if a record is
wrapped. Otherwise no line separator will be printed out.
SQL > SET RECSEP   EACH   -- line separator is printed out after each record.
SQL > SET RECSEP   OFF       -- set no record separator line.
```

5 – Save and Print SQL Result

```
SQL > SPOOL   tmp.txt                 -- save everything displayed on the screen into tile tmp.txt
SQL > select  * from s ;              -- sql command and contents of s will be saved into text file
SQL > SPOOL  OFF                      -- close the file.
```

Before you turn off the spooling, you can send whatever in the file into printer by

```
SQL > SPOOL OUT
```

6 – SQL/PLUS login File and ORACLE_PATH

ORACLE_HOME environment variable should be set to a directory that contains a login.sql file : the commands in the file will be executed every time you start SQL*PLUS.

On Unix environment, set ORACLE_PATH to the list sub-directories containing SQL command files.

Use 'HOST command' to execute OS command.

7 – More SQL/PLUS Environmental Variables

SET AUTO[COMMIT] { OFF | ON | IMM[EDIATE] }
OFF : no commit after each SQL statement
ON : automatically commit pending changes to database.

SET CON[CAT] { . | c | OFF | ON }
Set the character which ends the substitution variable and other string to different character than . or turns the separator on or off.

SET DEF[INE] { & | c | OFF | ON }
Set the character used to prefix the substitution variable to c. Off and On will ask SQLPLUS to scan or not to scan SQL statement for substitution variable in the statement.

SET HEA[DING] { ON | OFF }
Set table heading on or off when records are displayed on screen.

SET NEWP[AGE] (1 | n }
Set the number of blank lines between the beginning of the page the top line of that page.

SET NULL text
Set the text string used for displaying NULL values.

SET NUMF[ORMAT] format
Set the default format for numbers.

SET NUM[WIDTH] { 10 | n }
Set default width for displaying numbers.

SET PAGES[IZE] { 14 | n }
Set the number of lines from the top title to the end of page.

SET SHOW [MODE] { ON | OFF }
Controls whether SQL*Plus lists the old and new settings of SQL*Plus system variable when you change the setting with SET command.

SET SERVEROUTPUT ON SIZE 5000
It will allow you to print message from PL/SQL with DBMS_OUTPUT package. There is a buffer size limit (default to 2000 byte). If the number is exceeded, error ORA-20000 ORU-10027, Buffer overflow, limit of 2000 byte.
To see mode, buffer size and format of server output, use the following command to show the server output setting : SHOW SERVEROUTPUT