



Oracle Database: Introduction to SQL:

1. Introduction to Oracle Database

- 1.1 List the features of Oracle Database 11g
- 1.2 Discuss the basic design, theoretical, and physical aspects of a relational database
- 1.3 Categorize the different types of SQL statements
- 1.4 Describe the data set used by the course
- 1.5 Log on to the database using SQL Developer environment
- 1.6 Save queries to files and use script files in SQL Developer

2. Retrieve Data using the SQL SELECT Statement

- 2.1 List the capabilities of SQL SELECT statements
- 2.2 Generate a report of data from the output of a basic SELECT statement
- 2.3 Select All Columns
- 2.4 Select Specific Columns
- 2.5 Use Column Heading Defaults
- 2.6 Use Arithmetic Operators
- 2.7 Understand Operator Precedence
- 2.8 Learn the DESCRIBE command to display the table structure

3. Learn to Restrict and Sort Data

- 3.1 Write queries that contain a WHERE clause to limit the output retrieved
- 3.2 List the comparison operators and logical operators that are used in a WHERE clause
- 3.3 Describe the rules of precedence for comparison and logical operators
- 3.4 Use character string literals in the WHERE clause
- 3.5 Write queries that contain an ORDER BY clause to sort the output of a SELECT statement
- 3.6 Sort output in descending and ascending order

4. Usage of Single-Row Functions to Customize Output

- 4.1 Describe the differences between single row and multiple row functions
- 4.2 Manipulate strings with character function in the SELECT and WHERE clauses
- 4.3 Manipulate numbers with the ROUND, TRUNC, and MOD functions
- 4.4 Perform arithmetic with date data
- 4.5 Manipulate dates with the DATE functions

5. Invoke Conversion Functions and Conditional Expressions

- 5.1 Describe implicit and explicit data type conversion
- 5.2 Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions
- 5.3 Nest multiple functions
- 5.4 Apply the NVL, NULLIF, and COALESCE functions to data
- 5.5 Use conditional IF THEN ELSE logic in a SELECT statement

6. Aggregate Data Using the Group Functions

- 6.1 Use the aggregation functions to produce meaningful reports
- 6.2 Divide the retrieved data in groups by using the GROUP BY clause
- 6.3 Exclude groups of data by using the HAVING clause

7. Display Data From Multiple Tables Using Joins

- 7.1 Write SELECT statements to access data from more than one table
- 7.2 View data that generally does not meet a join condition by using outer joins
- 7.3 Join a table to itself by using a self join



8. Use Sub-queries to Solve Queries

- 8.1 Describe the types of problem that sub-queries can solve
- 8.2 Define sub-queries
- 8.3 List the types of sub-queries
- 8.4 Write single-row and multiple-row sub-queries

9. The SET Operators

- 9.1 Describe the SET operators
- 9.2 Use a SET operator to combine multiple queries into a single query
- 9.3 Control the order of rows returned

10. Data Manipulation Statements

- 10.1 Describe each DML statement
- 10.2 Insert rows into a table
- 10.3 Change rows in a table by the UPDATE statement
- 10.4 Delete rows from a table with the DELETE statement
- 10.5 Save and discard changes with the COMMIT and ROLLBACK statements
- 10.6 Explain read consistency

11. Use of DDL Statements to Create and Manage Tables

- 11.1 Categorize the main database objects
- 11.2 Review the table structure
- 11.3 List the data types available for columns
- 11.4 Create a simple table
- 11.5 Decipher how constraints can be created at table creation
- 11.6 Describe how schema objects work

12. Other Schema Objects

- 12.1 Create a simple and complex view
- 12.2 Retrieve data from views
- 12.3 Create, maintain, and use sequences
- 12.4 Create and maintain indexes
- 12.5 Create private and public synonyms

13. Control User Access

- 13.1 Differentiate system privileges from object privileges
- 13.2 Create Users
- 13.3 Grant System Privileges
- 13.4 Create and Grant Privileges to a Role
- 13.5 Change Your Password
- 13.6 Grant Object Privileges
- 13.7 How to pass on privileges?
- 13.8 Revoke Object Privileges

14. Management of Schema Objects

- 14.1 Add, Modify, and Drop a Column
- 14.2 Add, Drop, and Defer a Constraint
- 14.3 How to enable and Disable a Constraint?
- 14.4 Create and Remove Indexes
- 14.5 Create a Function-Based Index
- 14.6 Perform Flashback Operations