

Introduction

List the Oracle Database 10g Main Features

An Overview of: components, internet platform, apps server and developer suite

Describe Relational and Object Relational Database Designs

Review the System Development Life Cycle

Define the term Data Models

Describe different means of Sorting Data

Show how Multiple Tables can be related

Describe how SQL Communicates to the Database

Writing SQL SELECT Statements

Define projection, selection, and join terminology

Review the basic SQL SELECT statement syntax

Select all columns using a wildcard notation from a table

State simple rules and guidelines for writing SQL statements

Write a query containing the arithmetic operators

Create a character expression with the concatenation operator

Using the iSQL*Plus Environment

SQL statements versus iSQL*Plus commands

Restricting and Sorting Data

Limit rows using a selection

Using the WHERE clause to retrieve specific rows

Using the comparison conditions in the WHERE clause

Use the LIKE condition to compare literal values

List the logical conditions AND, OR, NOT

Describe the rules of precedence for the conditions

Sort rows with the ORDER BY clause

Use ampersand substitution in iSQL*Plus to restrict and sort output at run time

Using Single-Row Functions to Customize Output

Show the differences between single row and multiple row SQL functions

Categorize the character functions into case manipulation and character manipulation types

Use the character manipulation functions in the SELECT and WHERE clauses

Explain and use the DATE and numeric functions

Use the SYSDATE function to retrieve the current date in the default format

Introduce the DUAL table as a means to view function results

List the rules for applying the arithmetic operators on dates

Use the arithmetic operators with dates in the SELECT clause

Reporting Aggregated Data Using the Group Functions

Describe and categorize the group functions

Use the group functions

Utilize the DISTINCT keyword with the group functions

Describe how nulls are handled with the group functions

Create groups of data with the GROUP BY clause

Group data by more than one column
Avoid illegal queries with the group functions
Exclude groups of data with the HAVING clause

Displaying Data From Multiple Tables

Identify Types of Joins
Retrieve Records with Natural Joins
Use Table Aliases to write shorter code and explicitly identify columns from multiple tables
Create a Join with the USING clause to identify specific columns between tables
Use the ON clause to specify arbitrary conditions or specify columns to Join
Create a Three-way join with the ON clause to retrieve information from 3 tables
List the Types of Outer Joins LEFT, RIGHT, and FULL
Generating a Cartesian Product

Using Sub Queries to solve Queries

List the syntax for sub queries in a SELECT statements WHERE clause
List the guidelines for using sub queries
Describe the types of sub queries
Execute single row sub queries and use the group functions in a sub query
Identify illegal statements with sub queries
Execute multiple row sub queries
Analyze how the ANY and ALL operators work in multiple row sub queries

Using the SET Operators

Use the UNION operator to return all rows from multiple tables and eliminate any duplicate rows
Use the UNION ALL operator to return all rows from multiple tables
Describe the INTERSECT operator
Use the INTERSECT operator
Explain the MINUS operator
Use the MINUS operator
List the SET operator guidelines
Order results when using the UNION operator

Manipulating Data

Write INSERT statements to add rows to a table
Copy rows from another table
Create UPDATE statements to change data in a table
Generate DELETE statements to remove rows from a table
Use a script to manipulate data
Save and discard changes to a table through transaction processing
Show how read consistency works
Describe the TRUNCATE statement

Using DLL Statement to create and Manage Tables

List the main database objects and describe the naming rules for database objects
Introduce the schema concept
Display the basic syntax for creating a table and show the DEFAULT option
Explain the different types of constraints
Show resulting exceptions when constraints are violated with DML statements
Create a table with a sub query
Describe the ALTER TABLE functionality
Remove a table with the DROP statement and Rename a table

Creating the Schema Objects

Categorize simple and complex views and compare them

Create a view

Retrieve data from a view

Explain a read-only view

List the rules for performing DML on complex views

Create a sequence

List the basic rules for when to create and not create an index

Create a synonym

Managing Objects with Data Dictionary Views

Describe the structure of each of the dictionary views

List the purpose of each of the dictionary views

Write queries that retrieve information from the dictionary views on the schema objects

Use the COMMENT command to document objects

Controlling User Access

Controlling User Access

System versus Objects Privileges

Using Roles to define user groups

Changing Your Password

Granting Object Privileges

Confirming Privileges Granted

Revoking Object Privileges

Using Database Links

Manage Schema Objects

Using the ALTER TABLE statement

Adding a Column

Modifying a Column

Dropping a Column, Set Column UNUSED

Adding, Enabling and Disabling Constraints

Creating Function-Based Indexes

Performing FLASHBACK operations

External Tables

Manipulating Large Data Sets

Using the MERGE Statement

Performing DML with Sub queries

Performing DML with a RETURNING Clause

Overview of Multi-table INSERT Statements

Tracking Changes in DML

Generating Reports by Grouping Related Data

Overview of GROUP BY Clause

Overview of Having Clause

Aggregating data with ROLLUP and CUBE Operators

Determine subtotal groups using GROUPING Functions

Compute multiple groupings with GROUPING SETS

Define levels of aggregation with Composite Columns

Create combinations with Concatenated Groupings

Managing Data From Different Time Zone

Time Zones

Using date and time functions

Identifying TIMESTAMP Data Types

Differentiating between DATE and TIMESTAMP

Performing Conversion Operations

Hierarchical Retrieval

Sample Data from the EMPLOYEES Table

The Tree Structure of Employee data

Hierarchical Queries

Ranking Rows with LEVEL

Formatting Hierarchical Reports Using LEVEL and LPAD

Pruning Branches with the WHERE and CONNECT BY clauses

Regular Expression Support

Regular Expression Support Overview

Describing simple and complex patterns for searching and manipulating data

Searching Data Using Advanced Sub Queries

Sub query Overview

Using a Sub query

Comparing several columns using Multiple-Column Sub queries

Defining a Data source Using a Sub query in the FROM Clause

Returning one Value using Scalar Sub query Expressions

Performing ROW by-row processing with Correlated Sub queries

Reusing query blocks using the WITH Clause



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