Nutech Computer Training Institute

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Oracle 12C SQL

Introduction to SQL

- Overview of Oracle Database 12c and related products
- Overview of relational database management concepts and terminologies
- Introduction to SQL and its development environments
- The HR schema and the tables used in this course
- Oracle Database documentation and additional resources
- PL/SQL development environments available in this course
- Introduction to SQL Developer

Retrieve Data using the SQL SELECT Statement
- List the capabilities of SQL SELECT statements
- Generate a report of data from the output of a basic SELECT statement
- Use arithmetic expressions and NULL values in the SELECT statement
- Invoke Column aliases
- Concatenation operator, literal character strings, alternative quote operator, and the DISTINCT keyword
- Display the table structure using the DESCRIBE command

Restricted and Sorted Data
- Write queries with a WHERE clause to limit the output retrieved
- Describe the comparison operators and logical operators
- Describe the rules of precedence for comparison and logical operators
- Usage of character string literals in the WHERE clause
- Write queries with an ORDER BY clause
- Sort the output in descending and ascending order
- Substitution Variables

Usage of Single-Row Functions to Customize Output
- List the differences between single row and multiple row functions
- Manipulate strings using character functions
- Manipulate numbers with the ROUND, TRUNC, and MOD functions
- Perform arithmetic with date data
- Manipulate dates with the DATE functions

Conversion Functions and Conditional Expressions
- Describe implicit and explicit data type conversion
- Describe the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions
- Nesting multiple functions
- Apply the NVL, NULLIF, and COALESCE functions to data
- Usage of conditional IF THEN ELSE logic in a SELECT statement

Aggregated Data Using the Group Functions
- Usage of the aggregation functions in SELECT statements to produce meaningful reports
- Describe the AVG, SUM, MIN, and MAX function
- How to handle Null Values in a group function?
- Divide the data in groups by using the GROUP BY clause
- Exclude groups of date by using the HAVING clause

Display Data From Multiple Tables
- Write SELECT statements to access data from more than one table
- Join Tables Using SQL:1999 Syntax
- View data that does not meet a join condition by using outer joins
- Join a table to itself by using a self-join
- Create Cross Joins

Usage of Subqueries to Solve Queries
- Use a Subquery to Solve a Problem
- Single-Row Subqueries
- Group Functions in a Subquery
- Multiple-Row Subqueries
- Use the ANY and ALL Operator in Multiple-Row Subqueries
- Use the EXISTS Operator

SET Operators
- Describe the SET operators
- Use a SET operator to combine multiple queries into a single query
- Describe the UNION, UNION ALL, INTERSECT, and MINUS Operators
- Use the ORDER BY Clause in Set Operations

Data Manipulation
- Add New Rows to a Table
- Change the Data in a Table
- Use the DELETE and TRUNCATE Statements
- How to save and discard changes with the COMMIT and ROLLBACK statements
- Implement Read Consistency
- Describe the FOR UPDATE Clause

DDL Statements to Create and Manage Tables
- Categorize Database Objects
- Create Tables
- Describe the data types
- Understand Constraints
- Create a table using a subquery
- How to alter a table?
- How to drop a table?

Other Schema Objects
- Create, modify, and retrieve data from a view
- Perform Data manipulation language (DML) operations on a view
- How to drop a view?
- Create, use, and modify a sequence
- Create and drop indexes
- Create and drop synonyms