

SQL ASSIGNMENT – BEGINNER LEVEL

Instructions for Students:

- 1 This assignment is based on real-time scenarios.
- 2 Difficulty level is very easy.
- 3 Write only SQL queries. No explanation is required.
- 4 Use Oracle SQL syntax.
- 5 Attempt all questions.

Scenario:

You are working as a junior database trainee in a small company. Your task is to manage data related to employees, departments, customers, and orders using SQL.

Table Structures (Given)

- 1 **EMPLOYEES** (emp_id, emp_name, salary, dept_id, city)
- 2 **DEPARTMENTS** (dept_id, dept_name)
- 3 **CUSTOMERS** (cust_id, cust_name, email, city)
- 4 **ORDERS** (order_id, cust_id, order_amount, order_date)

A. Datatypes

- 1 Create a table products with product_id, product_name, price, created_date.
- 2 Create a table students with student_id, student_name, marks.

B. DDL (Create, Alter, Drop)

- 1 Create the employees table using appropriate datatypes.
- 2 Add phone_number column to employees table.
- 3 Modify emp_name size to 100 characters.
- 4 Drop phone_number column from employees table.
- 5 Drop students table.

C. DML (Insert, Update, Delete)

- 1 Insert one record into employees table.
- 2 Insert two records into departments table.
- 3 Update salary of employee whose emp_id is 101.
- 4 Delete employee who lives in Mumbai.

D. DQL (SELECT)

- 1 Display all employees.
- 2 Display emp_name and salary of all employees.
- 3 Display all customers from Delhi.

E. WHERE Clause

- 1 Display employees whose salary is greater than 30000.
- 2 Display employees working in department 10.
- 3 Display customers from Bangalore.

F. ORDER BY

- 1 Display employees sorted by salary in ascending order.
- 2 Display customers sorted by name in descending order.

G. Arithmetic Operators

- 1 Display employee name and annual salary.
- 2 Display employee name and salary after adding 5000 bonus.

H. Set Operators

- 1 Display employees from Mumbai and Pune using UNION.
- 2 Display common employees from Mumbai and Pune using INTERSECT.

I. Constraints

- 1 Create users table with PRIMARY KEY, UNIQUE and NOT NULL constraints.
- 2 Create products table with CHECK constraint on price.

J. Composite Key

- 1 Create order_items table with composite primary key.

K. Joins

- 1 Display employee name and department name using INNER JOIN.
- 2 Display all employees even if department is not assigned.
- 3 Display department name and employees working in each department.

L. TCL (Transaction Control)

- 1 Insert a record and COMMIT.
- 2 Update salary and ROLLBACK.
- 3 Create SAVEPOINT, update salary and rollback to savepoint.

M. DCL (Basic)

- 1 Grant SELECT on employees to test_user.
- 2 Revoke SELECT from test_user.