

ORACLE TASK:

An organization has a "Department" table and an "Employees" table in Oracle. The "Department" table contains information about different departments in the organization, and the "Employees" table contains information about the employees, including the department they belong to. The department table contains ID as a primary key and department name. The departments are HR, IT, and finance. The Employee table contains ID as a primary key and name, salary, and department ID as a foreign key.

- a) Create a Manager User and grant them a role of privileges to create two users. Let User 1 create the Employee and the Department table. Let User 2 insert 5 rows of employees. *[2 Marks]*
- b) Demonstrate generating a blocker-waiting situation using two transactions by user 1 and user 2. The Transaction is calling a function that raises the rate of salary by 10% for department 1. *[2 Marks]*
- c) Identify the sessions in the situation using SID and serial# for both blocker and waiting sessions. *[2 Marks]*
- d) Demonstrate a deadlock scenario and display the expected result. *[2 Marks]*
- e) Perform the following functions *[2 Marks]*
 - i. Create a function that calculates the average salary for any department
 - ii. Create a function that calculates the Total Salary in a Department.
 - iii. Create a function that calculates the maximum Salary.