

## ORACLE - SQL: Lab 3

1. **Use Notepad or equivalent to create and save your SQL statements,**
2. **Connect to Oracle: connect /@acal**
3. **Type COMMIT at the end of your session to save your data in the database**

## A) Table creation and population

- 1. Create the department and employee tables, with the following schema:**

**Department(dept\_no, dept\_name, dept\_location)**

```
Employee(emp_no, emp_last_name, emp_first_name, emp_date_of_birth,  
        emp_salary, emp_gender, *emp_dept_no)
```

## CREATE TABLE Department

```
(dept_no      NUMBER(2) PRIMARY KEY,  
dept_name    VARCHAR2(20) NOT NULL,  
dept_location VARCHAR2(20)  
);
```

## CREATE TABLE Employee

```
(emp_no          CHAR(9) PRIMARY KEY,
emp_last_name    VARCHAR2(25) NOT NULL,
emp_first_name   VARCHAR2(25) NOT NULL,
emp_date_of_birth DATE,
emp_salary       NUMBER(7,2) CHECK (emp_salary <= 85000),
emp_gender       CHAR,
emp_dept_no      NUMBER(2) REFERENCES department(dept_no)
                                ON DELETE SET NULL
);
```

2. **Check the type of the attributes** and populate the tables with the following data:

**Department:**

(1, Production, Selly Oak);  
(2, Marketing, Edgbaston);  
(3, Sales, Northfield);

**Employee:**

(666, Joyner, Suzanne, 12-06-1980, 30000, F, 1)  
 (444, Zhu, Waiman, 12-08-1970, 43000, M, 2)  
 (777, Hussain, Ryad, 10-08-1975, 35000, M, 1)  
 (111, Keita, Salif, 29-03-1969, 43000, M, 3)  
 (888, Shahine, Nadia, 04-05-1960, 45000, F, 2)  
 (222, Kamarazov, Boris, 31-07-1978, 28000, M, 3)  
 (333, Patel, Shishir, 09-11-1955, 45000, M, 2)  
 (555, Silva, Carmen, 20-02-1977, 40000, F, 3)  
 (999, Kurusawa, Mifune, 08-09-1952, 50000, M, 2)

## **B) Produce SQL statements to determine the following:**

### **Basic select statement:**

1. The last name, the first name and date of birth of each employee.
2. The employee number, the last name and the salary of all employees with a salary greater than 40000.
3. The last name and date of birth of the employees with a last name starting with 'S'.
4. The last name and first name of all female employees ordered by first name.
5. The last name, first name and department number of the male employees who do not belong to department 2.
6. The last name, first name of female employees whose salary is greater than 35000 and who were born before 1980, ordered by last name.

### **Select statement with aggregate functions:**

1. The average of the employees' salaries. The output column in the result table should be renamed 'Average Employee Salary'.
2. The total salary of the employees.
3. The highest and lowest salaries paid to employees.
4. The number of employees and average salary of employees in each department.
5. The average salary in each department and the average salary after an across-the-board 25% pay rise.
6. The highest salary figure for each department.
7. The average salary of employees in each department, sorted by the average salary figure.
8. The average salary of employees in each department, where the average is greater than £35000.
9. The average salary of employees in each departments except for department 1, where the average is greater than £35000.
10. The average salary of employees in each department, where the average is greater than £35000, and the number of employees in each department is greater than 2;
11. The highest average salary figure for all departments.