Assignment-6

Stream   : IT
Subject   : Database Management System Lab
Subject Code : IT-691

1. Create table **SUBJECT** and insert appropriate values.

Column Name	Data Type	Size	Constraints
SubjectCode	Varchar2	4	Not null, Primary key
SubjectName	Varchar2	15	Not null
Faculty	Varchar2	4	Foreign key references FacultyCode of table **FACULTY**

```
SQL> CREATE TABLE SUBJECT (
    SubjectCode VARCHAR2(4) NOT NULL PRIMARY KEY,
    SubjectName VARCHAR2(15) NOT NULL,
    Faculty VARCHAR2(4),
    CONSTRAINT fk_faculty FOREIGN KEY (Faculty) REFERENCES FACULTY_005(FacultyCode)
);
  2    3    4    5    6
Table created.
```

2. Find the number of students in each department with their department name.

```
SQL> SELECT
    D.DEPTNAME,
    COUNT(S.REGNO) AS NumberOfStudents
FROM
    Student S
JOIN
    DEPARTMENT_005 D ON S.DEPTCODE = D.DEPTCODE
GROUP BY
    D.DEPTNAME;  2    3    4    5    6    7    8    9

DEPTNAME                                          NUMBEROFSTUDENTS
------------------------------------------------- ----------------
Information Technology                                           3
Electrical Engineering                                          1
Computer Science and Engineering                                2
Electronics Engineering                                         2
Master  of Computer application                                 1
```

3. Increment the salary of each faculty by Rs 500.

```
SQL> UPDATE FACULTY_005
SET SALARY = SALARY + 500;  2

9 rows updated.
```

4. Find the names of students and faculties whose name start with 'S'.

```
SQL> SELECT NAME FROM STUDENT
WHERE NAME LIKE 'S%'
UNION
SELECT FACULTYNAME FROM FACULTY_005
WHERE FACULTYNAME LIKE 'S%';   2    3    4    5

NAME
--------------
S. Ghosh
S. Paul
S. RoyChoudhury
Saibal
Samik
Santanu
Srija

7 rows selected.
```

4. Find the students who stay in Kaikhali

```
SQL> SELECT NAME FROM Student
WHERE ADDRESS = 'Kaikhali';   2

no rows selected
```

6.   Find the names of faculties who take classes in the IT department.

```
SQL> SELECT FACULTYNAME FROM FACULTY_005
WHERE DEPTCODE = 'IT';   2

FACULTYNAME
--------------
D. Dutta
D. Majumdar
```

7.   Find the names of all faculties whose HOD is given.

```
SQL> SELECT F.FacultyName
FROM FACULTY_005 F
JOIN DEPARTMENT_005 D ON F.FacultyName = D.HOD
WHERE D.HOD = 'F101';   2    3    4

no rows selected
```

8.   Add extra attribute to the Subject table - **department varchar2(4), year varchar2(1)**

```
SQL> ALTER TABLE SUBJECT
ADD (
    DEPTCODE VARCHAR2(4),
    YEAR VARCHAR2(1)
);   2    3    4    5

Table altered.
```

9.   Insert values into the fields - **department, year**.

```
SQL> INSERT INTO SUBJECT (SubjectCode, SubjectName, Faculty)
VALUES ('CS01', 'Computer', 'F101');  2

1 row created.
```

10. Find the names of faculties who earn more than the average of all faculties.

```
SQL> SELECT F.FACULTYNAME
FROM FACULTY_005 F
WHERE F.SALARY > (SELECT AVG(SALARY) FROM FACULTY_005);  2    3

FACULTYNAME
---------------
S. RoyChoudhury
P. Roy
D. Dutta
```

11. List the names of faculties of CSE department who earn more than the average salary of the department.

```
SQL> SELECT FacultyName
FROM FACULTY_005
WHERE DeptCode = 'CSE'
AND Salary > (SELECT AVG(Salary) FROM FACULTY_005 WHERE DeptCode = 'CSE');

FACULTYNAME
--------------
P. Roy
```

12. Find the maximum and minimum salaries among faculties.

```
SQL> SELECT MAX(SALARY) AS MaxSalary, MIN(SALARY) AS MinSalary
FROM FACULTY_005;  2

 MAXSALARY  MINSALARY
---------- ----------
    800500     400500
```

13. Find the second maximum samary among all faculties.

```
SQL> SELECT MAX(SALARY) AS SecondMaxSalary
FROM FACULTY_005
WHERE SALARY < (SELECT MAX(SALARY) FROM FACULTY_005);

SECONDMAXSALARY
--------------
         700500
```

14. Find the names of faculties who are not the HOD's of any department.

```
SQL> SELECT F.FACULTYNAME
FROM FACULTY_005 F
LEFT JOIN DEPARTMENT_005 D ON F.FacultyCode = D.HOD
WHERE D.HOD IS NULL;  2    3    4

FACULTYNAME
--------------
I. Majumdar
N. Sanyal
D. Majumdar
P. Roy
```

15. Find the names of subjects for students of CSE 3rd year.

16. Name the departments having highest number of faculties and display the names of faculties.

```
SQL> SELECT D.DEPTNAME, F.FACULTYNAME
FROM FACULTY_005 F
JOIN DEPARTMENT_005 D ON F.DEPTCODE = D.DEPTCODE
WHERE D.DEPTCODE IN (
    SELECT DEPTCODE
    FROM FACULTY_005
    GROUP BY DEPTCODE
    HAVING COUNT(FacultyCode) = (
        SELECT MAX(DeptCount)
        FROM (
            SELECT COUNT(FacultyCode) AS DeptCount
            FROM FACULTY_005
            GROUP BY DEPTCODE
        )
    )
);
    2    3    4    5    6    7    8    9   10   11   12   13
DEPTNAME                                FACULTYNAME
--------------------------------------- --------------
Information Technology                  D. Dutta
Information Technology                  D. Majumdar
Electrical Engineering                  N. Sanyal
Electrical Engineering                  P. Das
Computer Science and Engineering        S. RoyChoudhury
Computer Science and Engineering        P. Roy
Electronics Engineering                 I. Majumdar
Electronics Engineering                 S. Ghosh

8 rows selected.
```