**Institute of Engineering & Management**

**Department of Computer Science & Engineering**

**Data-Base Management System Lab for 3rd year 6th semester 2019**

**Code: CS 691**

**Date:** 14/02/19

**WEEK-1**

**Assignment-1**

**Problem Statement - 1:** Make your own student table with certain necessary facts, like your id, name, and branch.

**Solution:**

SQL> create table student\_ranajit

2 ( id number, name varchar2(40), branch varchar2(20));

Table created.

**Problem Statement - 2:** Fill up the table with the records of at least 10 of your friends.

**Solution:**

SQL> insert into student\_ranajit values

2 ( 1, 'Ranajit', 'CSE');

1 row created.

SQL> insert into student\_ranajit values

2 ( 2, 'Ankur', 'CSE');

1 row created.

SQL> insert into student\_ranajit values

2 ( 3, 'Arnab', 'CSE');

1 row created.

SQL> insert into student\_ranajit values

2 ( 4, 'Biswadeep', 'IT');

1 row created.

SQL> insert into student\_ranajit values

2 ( 5, 'Nilabjo', 'IT');

1 row created.

SQL> insert into student\_ranajit values

2 (6, 'Biswanath', 'IT');

1 row created.

SQL> insert into student\_ranajit values

2 ( 7, 'Soumya', 'ECE');

1 row created.

SQL> insert into student\_ranajit values

2 ( 8, 'Aditya', 'ECE');

1 row created.

SQL> insert into student\_ranajit values

2 (9, 'Rohan', 'CSE');

1 row created.

SQL> insert into student\_ranajit values

2 (10, 'Souvik', 'IT');

1 row created.

SQL> select \* from student\_ranajit

2 ;

ID NAME BRANCH

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1 Ranajit CSE

2 Ankur CSE

3 Arnab CSE

4 Biswadeep IT

5 Nilabjo IT

6 Biswanath IT

7 Soumya ECE

8 Aditya ECE

9 Rohan CSE

10 Souvik IT

10 rows selected.

**Problem Statement - 3:** It sounds good if you say roll instead of id. so, change it.

**Solution:**

SQL> alter table student\_ranajit rename column id to roll;

Table altered.

**Problem Statement - 4:** Here, I think age and address could also be added. So, append it with default address of all students as Kolkata.

**Solution:**

SQL> alter table student\_ranajit add age number;

Table altered.

SQL> alter table student\_ranajit add address varchar2(10) default 'Kolkata';

Table altered.

SQL> select \* from student\_ranajit;

ROLL NAME BRANCH AGE ADDRESS

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1 Ranajit CSE Kolkata

2 Ankur CSE Kolkata

3 Arnab CSE Kolkata

4 Biswadeep IT Kolkata

5 Nilabjo IT Kolkata

6 Biswanath IT Kolkata

7 Soumya ECE Kolkata

8 Aditya ECE Kolkata

9 Rohan CSE Kolkata

10 Souvik IT Kolkata

10 rows selected.

**Problem Statement - 5:** Fill up the records with individual student's age.

**Solution:**

SQL> update student\_ranajit set age=20 where roll=1;

1 row updated.

SQL> update student\_ranajit set age=20 where roll=2;

1 row updated.

SQL> update student\_ranajit set age=21 where roll=3;

1 row updated.

SQL> update student\_ranajit set age=21 where roll=4;

1 row updated.

SQL> update student\_ranajit set age=20 where roll=5;

1 row updated.

SQL> update student\_ranajit set age=21 where roll=6;

1 row updated.

SQL> update student\_ranajit set age=20 where roll=7;

1 row updated.

SQL> update student\_ranajit set age=20 where roll=8;

1 row updated.

SQL> update student\_ranajit set age=20 where roll=9;

1 row updated.

SQL> update student\_ranajit set age=23 where roll=10;

1 row updated.

SQL> select \* from student\_ranajit;

ROLL NAME BRANCH AGE ADDRESS

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1 Ranajit CSE 20 Kolkata

2 Ankur CSE 20 Kolkata

3 Arnab CSE 21 Kolkata

4 Biswadeep IT 21 Kolkata

5 Nilabjo IT 20 Kolkata

6 Biswanath IT 21 Kolkata

7 Soumya ECE 20 Kolkata

8 Aditya ECE 20 Kolkata

9 Rohan CSE 20 Kolkata

10 Souvik IT 23 Kolkata

10 rows selected.

**Problem Statement - 6:** How do I identify each student uniquely? So make roll number as your primary key.

**Solution:**

SQL> alter table student\_ranajit modify roll primary key;

Table altered.

**Problem Statement - 7:** Don't keep the name field blank for any record.

**Solution:**

SQL> alter table student\_ranajit modify name not null;

Table altered.

**Problem Statement - 8:** Add marks column in the table and add values.

**Solution:**

SQL> alter table student\_ranajit add marks integer default 75;

Table altered.

SQL> update student\_ranajit set marks=95 where roll=1;

1 row updated.

SQL> update student\_ranajit set marks=90 where roll=4;

1 row updated.

SQL> update student\_ranajit set marks=97 where roll=7;

1 row updated.

SQL> update student\_ranajit set marks=40 where roll=10;

1 row updated.

**Problem Statement - 9:** Identify the students who have passed the exam. Cut off marks is 50%.

**Solution:**

SQL> select name from student\_ranajit where marks>=50;

NAME

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Ranajit

Ankur

Arnab

Biswadeep

Nilabjo

Biswanath

Soumya

Aditya

Rohan

9 rows selected.

**Problem Statement - 10:** If any student fails, discard his record from the database

**Solution:**

SQL> delete from student\_ranajit where marks<50;

1 row deleted.

**Problem Statement - 11:** Remove the address field from your table.

**Solution:**

SQL> alter table student\_ranajit drop column address;

Table altered.

**Problem Statement - 12:** Copy the contents from emp table to a new table.

**Solution:**

SQL> create table new\_rana as select \* from emp;

Table created.

**Problem Statement - 13:** Show the employee records from your new table.

**Solution:**

SQL> select \* from new\_rana;

EMPNO ENAME JOB HIREDATE SAL COMM DEPTNO

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7369 SMITH CLERK 17-DEC-80 800 20

7499 ALLEN SALESMAN 20-FEB-81 1600 300 30

7521 WARD SALESMAN 22-FEB-81 1250 500 30

7566 JONES MANAGER 02-APR-81 2975 20

7654 MARTIN SALESMAN 28-SEP-81 1250 1400 30

7698 BLAKE MANAGER 01-MAY-81 2850 30

7782 CLARK MANAGER 09-JUN-81 2450 10

7788 SCOTT ANALYST 19-APR-87 3000 20

7839 KING PRESIDENT 17-NOV-81 5000 10

7844 TURNER SALESMAN 08-SEP-81 1500 0 30

7876 ADAMS CLERK 23-MAY-87 1100 20

7900 JAMES CLERK 03-DEC-81 950 30

7902 FORD ANALYST 03-DEC-81 3000 20

7934 MILLER CLERK 23-JAN-82 1300 10

14 rows selected.

**Problem Statement - 14:** Show salary statement along with name of all employees whose salary>1000.

**Solution:**

SQL> select ename, sal from new\_rana where sal>1000;

ENAME SAL

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ALLEN 1600

WARD 1250

JONES 2975

MARTIN 1250

BLAKE 2850

CLARK 2450

SCOTT 3000

KING 5000

TURNER 1500

ADAMS 1100

FORD 3000

MILLER 1300

12 rows selected.

**Problem Statement - 15:** How many such employees are there whose salary is within 1000 to 3000 range?

**Solution:**

SQL> select count(ename) from new\_rana where sal between 1000 and 3000;

COUNT(ENAME)

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11

**Problem Statement - 16:** Give a pay hike to the employees whose salary is 1250 and 950.

**Solution:**

SQL> select sal, sal+100 from new\_rana where sal=1250 or sal=950;

SAL SAL+100

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1250 1350

1250 1350

950 1050

**Problem Statement - 17:** Suggest a meaningful name for salary hike column .

**Solution:**

SQL> select sal, sal+100 hike from new\_rana where sal=1250 or sal=950;

SAL HIKE

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1250 1350

1250 1350

950 1050

**Problem Statement - 18:** How many types of jobs are there in this company?

**Solution:**

SSQL> select count(distinct job) from new\_rana;

COUNT(DISTINCTJOB)

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5

**Problem Statement - 19:** Give a salary hike of 15% to the employees who have joined the company before 31st Dec 1981.

**Solution:**

SQL> select sal, (sal+sal\*.15) from new\_rana where hiredate<'31-DEC-1981';

SAL (SAL+SAL\*.15)

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800 920

1600 1840

1250 1437.5

2975 3421.25

1250 1437.5

2850 3277.5

2450 2817.5

5000 5750

1500 1725

950 1092.5

3000 3450

11 rows selected.