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COURSE CODE : CSA0517

**DATABASE MANAGEMENT SYSTEMS LAB EXERCISES -1**

**1) Create a table name STUDENT with following structure.**

|  | **Column** |  |  |  |
| --- | --- | --- | --- | --- |
| **S.nO** | **Name** | **Description** | **Data Type** |  |
|  |  |  |
|  |  | Registration |  |  |
| 1 | RegNo | Number | NUMBER(3) |  |
| 2 | Name | Student Name | VARCHAR(15) |  |
|  |  | Gender of the |  |  |
| 3 | Gender | student | CHAR(1) |  |
| 4 | DOB | Date of Birth | DATE |  |
| 5 | MobileNo | Mobile Number | NUMBER(10) |  |
| 6 | City | Location of stay | VARCHAR(15) |  |

**CODE:**

mysql> create table student(regno integer(3), name varchar(15), gender char(1), dob date, mobileno integer(10), city varchar(15));

**2) Create a table name FACULTY with following structure.**

|  | **Column** |  |  |  |
| --- | --- | --- | --- | --- |
| **S.nO** | **Name** | **Description** | **Data Type** |  |
|  |  |  |
| 1 | FacNo | Faculty Identifier | VARCHAR(4) |  |
| 2 | FacName | Faculty Name | VARCHAR(15) |  |
| 3 | Gender | Gender of faculty | CHAR(1) |  |
| 4 | DOB | Date of Birth | DATE |  |
| 5 | DOJ | Date of Join | DATE |  |
| 6 | MobileNo | Mobile Number | NUMBER(10) |  |

**CODE:**

mysql> create table faculty(facno varchar(4), facname varchar(15), gender char(1), dob date, doj date, mobileno integer(10));

Query OK, 0 rows affected (0.01 sec)

**3) Create a table name DEPARTMENT with following structure.**

|  | **Column** |  |  |  |
| --- | --- | --- | --- | --- |
| **S.nO** | **Name** | **Description** | **Data Type** |  |
|  |  |  |
| 1 | DeptNo | Department Identifier | VARCHAR(4) |  |
| 2 | DeptName | Department Name | VARCHAR(15) |  |
| 3 | DeptHead | Department Head | VARCHAR(4) |  |

**CODE:**

mysql> create table department(deptno varchar(4), deptname varchar(15), depthead varchar(4));

Query OK, 0 rows affected (0.03 sec)

**4) Create a table name COURSE with following structure.**

|  | **Column** |  |  |  |
| --- | --- | --- | --- | --- |
| **S.nO** | **Name** | **Description** | **Data Type** |  |
|  |  |  |
| 1 | CourseNo | Course Identifier | VARCHAR(3) |  |
|  |  | Course |  |  |
| 2 | CourseDesc | Description | VARCHAR(14) |  |
| 3 | CourseType | Course Type | CHAR(1) |  |
| 4 | SemNo | Semester Number | CHAR(1) |  |
| 5 | HallNo | Hall Number | VARCHAR(4) |  |
| 6 | FacNo | Faculty Identifier | VARCHAR(4) |  |

**CODE:**

mysql> create table course(courseno varchar(3), coursedesc varchar(14), coursetype char(1), semno char(1), hallno varchar(4), facno varchar(4));

Query OK, 0 rows affected (0.02 sec)

**Modify the table FACULTY by adding a column name DeptNo of datatype VARCHAR(4)**

**CODE:**

mysql> alter table faculty add deptno varchar(4);

Query OK, 0 rows affected (0.05 sec)

Records: 0 Duplicates: 0 Warnings: 0

| **Ex,no 2. DDL Commands with Constraints – PRIMARY, FOREIGN KEY, UNIQUE,CHECK** |
| --- |
|  |
| **Alter the table STUDENT with following structure.**   | S.No | Column | Constraints | | --- | --- | --- | | 1 | RegNo | PRIMARY KEY | | 2 | MobileNo | NotNull |   **CODE:**  mysql> alter table student add primary key(regno);  mysql> select \* from student where mobileno is not null;  Empty set (0.00 sec)  **Alter the table name FACULTY with following structure. The DeptNo in this table refers the DeptNo in the DEPARTMENT table.**   | S.No | Column | Constraints | | --- | --- | --- | | 1 | FacNo | PRIMARY KEY | | 2 | Gender | Check ‘M’ or ‘F’ |   **CODE:**  mysql> alter table faculty add primary key(facno);  Query OK, 0 rows affected (0.05 sec)  Records: 0 Duplicates: 0 Warnings: 0  mysql> alter table faculty add check(gender=m/f);  Query OK, 0 rows affected (0.03 sec)  Records: 0 Duplicates: 0 Warnings: 0  **Alter the FACULTY table is successfully created, test if you add a constraint FOREIGN KEY to the DeptNo of this table.**  **CODE:**  mysql> alter table faculty add foreign key(deptno) references department(deptno);  Query OK, 0 rows affected (0.08 sec)  **4)Alter the table name DEPARTMENT with following structure.**   | S.No | Column | Constraints | | --- | --- | --- | | 1 | DeptNo | PRIMARY KEY |   **CODE:**  mysql> alter table department add primary key(deptno);  Query OK, 0 rows affected (0.07 sec)  Records: 0 Duplicates: 0 Warnings: 0   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- |   **5. Alter the table name COURSE with following Structure**   | S.No | Column | Constraints | | --- | --- | --- | | 1 | CourseNo | PRIMARY KEY | | 2 | SemNo | 1 to 6 | |
| **CODE:**  mysql> use course;  Database changed  mysql> alter table course add primary key(courseno);  Query OK, 0 rows affected (0.03 sec)  Records: 0 Duplicates: 0 Warnings: 0  mysql> alter table course add check(semno between 1 and 6);  Query OK, 0 rows affected (0.06 sec)  Records: 0 Duplicates: 0 Warnings: 0  **Ex.No 3 DML Commands – INSERT, SELECT, UPDATE, DELETE** |

**Questions**:

**Populate all the five tables with your own data**

**CODE:**

mysql> insert into student values(123, 'murali', 'm', '2004-06-23', 1923456778, 'vijayawada');

Query OK, 1 row affected (0.02 sec)

mysql> select \* from student;

+-------+--------+--------+------------+------------+------------+

| regno | name | gender | dob | mobileno | city |

+-------+--------+--------+------------+------------+------------+

| 123 | murali | m | 2004-06-23 | 1923456778 | vijayawada |

+-------+--------+--------+------------+------------+------------+

2 rows in set (0.00 sec)

mysql> insert into department values('d2','dbms','syam');

Query OK, 1 row affected (0.02 sec)

mysql> select \* from department

+--------+----------+----------+

| deptno | deptname | depthead |

+--------+----------+----------+

| d1 | dbms | ram |

| d2 | dbms | syam |

+--------+----------+----------+

2 rows in set (0.00 sec)

mysql> insert into faculty values('f1','kamal','f','1976-08-09', '2020-01-01', 1678682515, 'd2');

Query OK, 1 row affected (0.00 sec)

mysql> select \* from faculty;

+-------+---------+--------+------------+------------+------------+--------+

| facno | facname | gender | dob | doj | mobileno | deptno |

+-------+---------+--------+------------+------------+------------+--------+

| f1 | kamal | f | 1976-08-09 | 2020-01-01 | 1678682515 | d2 |

+-------+---------+--------+------------+------------+------------+--------+

1 row in set (0.00 sec)

mysql> insert into course values('c1','database','a','x','1525','1234');

Query OK, 1 row affected (0.01 sec)

mysql> select \* from course;

+----------+------------+------------+-------+--------+-------+

| courseno | coursedesc | coursetype | semno | hallno | facno |

+----------+------------+------------+-------+--------+-------+

| c1 | database | a | x | 1525 | 1234 |

+----------+------------+------------+-------+--------+-------+

1 row in set (0.00 sec)

**Update the value of student name whose register number is ‘191711342’**

**CODE:**

mysql> update student set name='mahesh' where regno='123';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select \* from student;

+-------+--------+--------+------------+------------+------------+

| regno | name | gender | dob | mobileno | city |

+-------+--------+--------+------------+------------+------------+

| 123 | mahesh | m | 2004-06-23 | 1923456778 | vijayawada |

| 132 | manju | m | 2003-08-23 | 1246657654 | cpeta |

+-------+--------+--------+------------+------------+------------+

2 rows in set (0.00 sec)

**Delete the record in the table FACULTY, who resigned her job.**

**CODE:**

mysql> delete from faculty where facname='kamal';

Query OK, 1 row affected (0.01 sec)

mysql> select \* from faculty;

Empty set (0.00 sec)

**Modify the date of birth for the faculty whose name is 'RAM' with a value ‘1983-05-01’**

**CODE:**

mysql> update faculty set dob='1983-05-01' where facname='kamal';

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select \* from faculty;

+-------+---------+--------+------------+------------+------------+--------+

| facno | facname | gender | dob | doj | mobileno | deptno |

+-------+---------+--------+------------+------------+------------+--------+

| f1 | kamal | f | 1983-05-01 | 2020-01-01 | 1678682515 | d2 |

+-------+---------+--------+------------+------------+------------+--------+

1 row in set (0.00 sec)

**Remove all faculty who are having over 65 years**

**CODE:**

mysql> delete from faculty where facno='f1';

Query OK, 1 row affected (0.01 sec)

mysql> select \* from faculty;

Empty set (0.00 sec)

**View all the records from the five tables.**

**CODE:**

mysql> select \* from student;

+-------+--------+--------+------------+------------+------------+

| regno | name | gender | dob | mobileno | city |

+-------+--------+--------+------------+------------+------------+

| 123 | mahesh | m | 2004-06-23 | 1923456778 | vijayawada |

| 132 | manju | m | 2003-08-23 | 1246657654 | cpeta |

+-------+--------+--------+------------+------------+------------+

2 rows in set (0.00 sec)

mysql> select \* from faculty;

Empty set (0.00 sec)

mysql> select \*from course;

+----------+------------+------------+-------+--------+-------+

| courseno | coursedesc | coursetype | semno | hallno | facno |

+----------+------------+------------+-------+--------+-------+

| c1 | database | a | x | 1525 | 1234 |

+----------+------------+------------+-------+--------+-------+

1 row in set (0.00 sec)

mysql> select \* from department;

+--------+----------+----------+

| deptno | deptname | depthead |

+--------+----------+----------+

| d1 | dbms | ram |

| d2 | dbms | syam |

+--------+----------+----------+

2 rows in set (0.00 sec)

**Ex.No 4 SELECT with various clause – WHERE, pattern matching**

**Questions:**

**1.The student counsellor wanted to display the registration number, student name and date of birth for all the students.**

**CODE:**

mysql> select regno, name, dob from student;

+-------+--------+------------+

| regno | name | dob |

+-------+--------+------------+

| 123 | mahesh | 2004-06-23 |

| 132 | manju | 2003-08-23 |

+-------+--------+------------+

2 rows in set (0.00 sec)

**2.The controller of examinations wanted to list all the female students**

**CODE:**

mysql> select \* from student where gender='f';

Empty set (0.00 sec)

**3.Who are the boy students registered for course with the course number “C001“**

**CODE:**

mysql> alter table student add courseno varchar(4);

Query OK, 2 rows affected (0.07 sec)

Records: 2 Duplicates: 0 Warnings: 0

mysql> select \* from student;

+-------+--------+--------+------------+------------+------------+----------+

| regno | name | gender | dob | mobileno | city | courseno |

+-------+--------+--------+------------+------------+------------+----------+

| 123 | mahesh | m | 2004-06-23 | 1923456778 | vijayawada | NULL |

| 132 | manju | m | 2003-08-23 | 1246657654 | cpeta | NULL |

+-------+--------+--------+------------+------------+------------+----------+

2 rows in set (0.00 sec)

**4.Display all faculty details joined before “November 2014”**

**CODE:**

5.Display all the courses not allotted to halls

6.List the students whose name ends with the substring “ma”

7.Display all students whose name contains the substring “ma”

8.Find all the students who are located in cities having “Sal” as substring

9.Display the students whose names do not contain six letters.

10.Find all the students whose names contains “th”