NAME : BANDI MOHANA SUDHA MURALI KRISHNA

REGNO : 192111072

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:**

mysql> select facno from faculty where (extract(year\_month from doj)<extract(year\_month from '2014-11-01'));

+-------+

| facno |

+-------+

| f4 |

+-------+

1 row in set (0.00 sec)

mysql> select \* from faculty;

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

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

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

| f1 | kavya | f | 2003-12-12 | 2022-06-07 | 9841278965 | d1 |

| f2 | kamu | m | 1997-08-07 | 2021-03-04 | 9842732965 | d2 |

| f3 | murugan | m | 1998-07-07 | 2020-09-08 | 8842732965 | d1 |

| f4 | kannan | m | 2001-10-01 | 2012-09-09 | 7842732965 | d2 |

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

4 rows in set (0.00 sec)

**5.Display all the courses not allotted to halls**

**CODE:**

mysql> select \* from course;

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

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

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

| c1 | dbms | c | 2 | 3 | f1 |

| c2 | ds | c | 1 | 4 | f2 |

| c3 | networks | c | 3 | 5 | f3 |

| c4 | r programming | c | 1 | NULL | f2 |

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

4 rows in set (0.00 sec)

mysql> select courseno from course where hallno is null;

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

| courseno |

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

| c4 |

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

1 row in set (0.00 sec)****

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

**CODE:**

mysql> select \* from student;

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

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

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

| 123 | magesh | m | 2022-09-08 | 1234567891 | chennai | c1 |

| 124 | reshma | m | 2004-09-08 | 1231231231 | bangalore | c1 |

| 125 | nisha | f | 2008-09-18 | 1131231231 | hyderabad | c2 |

| 191 | ganga | f | 2002-02-22 | 1423123423 | cochin | c2 |

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

4 rows in set (0.00 sec)

mysql> select regno from student where name like '%ma';

+-------+

| regno |

+-------+

| 124 |

+-------+

1 row in set (0.07 sec)

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

**CODE:**

mysql> select regno from student where name like '%ma%';

+-------+

| regno |

+-------+

| 123 |

| 124 |

+-------+

2 rows in set (0.00 sec)

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

**CODE:**

mysql> select \* from student;

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

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

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

| 123 | magesh | m | 2022-09-08 | 1234567891 | chennai | c1 |

| 124 | reshma | m | 2004-09-08 | 1231231231 | bangalore | c1 |

| 125 | nisha | f | 2008-09-18 | 1131231231 | hyderabad | c2 |

| 191 | sathish | f | 2002-02-22 | 1423123423 | salem | c2 |

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

4 rows in set (0.00 sec)

mysql> select \* from student where city like '%sal%';

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

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

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

| 191 | sathish | f | 2002-02-22 | 1423123423 | salem | c2 |

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

1 row in set (0.00 sec)

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

**CODE:**

mysql> select \* from student where name not like '\_\_\_\_\_\_';

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

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

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

| 125 | nisha | f | 2008-09-18 | 1131231231 | hyderabad | c2 |

| 191 | sathish | f | 2002-02-22 | 1423123423 | cochin | c2 |

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

2 rows in set (0.04 sec)

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

**CODE:**

mysql> select \* from student;

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

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

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

| 123 | magesh | m | 2022-09-08 | 1234567891 | chennai | c1 |

| 124 | reshma | m | 2004-09-08 | 1231231231 | bangalore | c1 |

| 125 | nisha | f | 2008-09-18 | 1131231231 | hyderabad | c2 |

| 191 | sathish | f | 2002-02-22 | 1423123423 | cochin | c2 |

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

4 rows in set (0.00 sec)

mysql> select \* from student where name like '%th%';

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

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

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

| 191 | sathish | f | 2002-02-22 | 1423123423 | cochin | c2 |

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

1 row in set (0.00 sec)