

**Name : Ainwad Shivkumar Rajeshwar**

**Roll no : 220950320003**

## **ASSIGNMENT - 1**

**Q.** A university DB contains information about professors (identified by SIN) and courses (identified by course ID). Professors teach courses; each of the following situations concerns the Teaches relationship set.

List all candidate keys of the Teaches relationship set. a. Professors can teach the same course in several semesters, and each offering must be recorded. b. Professors can teach the same course in several semesters, but only the most recent such offering needs to be records. Assume the above Situation (b) applies in all subsequent situations.

List all the keys possible in each of the following situations.

a. Every professor teaches a course, and every course is taught by some professor. b. Every professor teaches exactly one course, and every course is taught by exactly one professor.

**Queries :**

```
create table PROFESSORS(SIN int(10) Primary Key,NAME
varchar(20),ADDRESS varchar(20),PHONE_NUMBER varchar(10));
```

```
Create table COURSES_FROM_SEMESTER_1(COURSE_ID
int(5),COURSE_NAME varchar(20),COURSE_DURATION varchar(20),SIN
int(10));
```

```
Alter table COURSES_FROM_SEMESTER_1 add constraint Foreign
Key(SIN) references from PROFESSORS(SIN);
```

```
insert into PROFESSORS values(111021,"Mr. SADHU
SRINIVAS",'AMEERPETH HYD','9876543210');
```

```
insert into PROFESSORS values(111022,"Ms. SUSHMITA
MEENA",'NIZAMPETH HYD','8765432945'),(111023,"Mr. SAMIR",'CDAC
HYD','9665437689'),(111024,"Mr. SRINIVAS KARTIK",'CDAC
CAMP_HYD','9876568767');
```

```
insert into PROFESSORS values(111025,"Mr. UDAY
KUMAR",'NEAR_BIRLA_TEMP','8767548934');
```

```
Update COURSES_FROM_SEMESTER_1 set SIN = 111026 where
COURSE_ID = 02467;
```

```
Update table COURSES_FROM_SEMESTER_1 set SIN = 111021 where
COURSE_ID = 2462;
```

```
insert into COURSES_FROM_SEMESTER_1 values(02463,'DBMS','2
WEEKS',111022);
```

```
insert into COURSES_FROM_SEMESTER_1 values(02464,'DATA
STRUCTURE','2 WEEKS',111023),values(02465,'ADVANCE JAVA','3
WEEKS',111024),values(02466,'OPERATINGSYSTEM','3
WEEKS',111024),values(02467,'.NET','2 WEEKS',111025);
```

## Output :

```
shivkumar — mysql -u root -p — 80x24

mysql> desc Professors;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| SIN            | int           | NO   | PRI | NULL    |       |
| NAME           | varchar(20)   | YES  |     | NULL    |       |
| ADDRESS        | varchar(20)   | YES  |     | NULL    |       |
| PHONE_NUMBER   | varchar(10)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> desc Courses_from_semester_1;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| COURSE_ID      | int           | YES  |     | NULL    |       |
| COURSE_NAME     | varchar(20)   | YES  |     | NULL    |       |
| COURSE_DURATION | varchar(20)   | YES  |     | NULL    |       |
| SIN            | int           | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> █
```

```
[mysql> select * from professors;
```

| SIN    | NAME                | ADDRESS           | PHONE_NUMBER |
|--------|---------------------|-------------------|--------------|
| 111021 | Mr. SADHU SRINIVAS  | AMEERPETH HYD     | 9876543210   |
| 111022 | Ms. SUSHMITA MEENA  | NIZAMPETH HYD     | 8765432945   |
| 111023 | Mr. SAMIR           | CDAC HYD          | 9665437689   |
| 111024 | Mr. SRINIVAS KARTIK | CDAC CAMP_HYD     | 9876568767   |
| 111025 | Mr. UDAY KUMAR      | NEAR_BIRLA_TEMP   | 8767548934   |
| 111026 | MR. VIVEK CHABRA    | CENTRALL_MALL_HYD | 8668432197   |

```
6 rows in set (0.01 sec)
```

```
[mysql> select * from courses_from_semester_1;
```

| COURSE_ID | COURSE_NAME      | COURSE_DURATION | SIN    |
|-----------|------------------|-----------------|--------|
| 2462      | CORE JAVA        | 2 WEEKS         | 111021 |
| 2463      | DBMS             | 2 WEEKS         | 111022 |
| 2464      | DATA STRUCTURE   | 2 WEEKS         | 111023 |
| 2465      | ADVANCE JAVA     | 3 WEEKS         | 111024 |
| 2466      | OPERATING SYSTEM | 3 WEEKS         | 111025 |
| 2467      | .NET             | 2 WEEKS         | 111026 |

```
6 rows in set (0.01 sec)
```