

DBMS LAB – 6

Q1

```
CREATE TABLE course (coursenum INT primary key, coursename
VARCHAR(20));
CREATE TABLE section (sectionnum INT primary key, term INT);
CREATE TABLE professor (profnum INT primary key, profname INT,
sectionnum INT, coursenum INT);
CREATE TABLE student (studentnum INT primary key, studentname
VARCHAR(30), GPA INT, sectionnum INT, coursenum INT);
CREATE TABLE offsitesection (location VARCHAR(30), sectionnum
INT);
ALTER TABLE professor ADD CONSTRAINT FOREIGN KEY
professor_fk(sectionnum) REFERENCES section(sectionnum);
ALTER TABLE student ADD CONSTRAINT FOREIGN KEY
student_fk(sectionnum) REFERENCES section(sectionnum);
```

```
mysql> DESC course;
```

| Field | Type | Null | Key | Default | Extra |
|------------|-------------|------|-----|---------|-------|
| coursenum | int | NO | PRI | NULL | |
| coursename | varchar(20) | YES | | NULL | |

```
2 rows in set (0.00 sec)
```

```
mysql> DESC section;
```

| Field | Type | Null | Key | Default | Extra |
|------------|------|------|-----|---------|-------|
| sectionnum | int | NO | PRI | NULL | |

```
| term      | int | YES |  | NULL |  |  
+-----+-----+-----+-----+-----+-----+  
2 rows in set (0.01 sec)
```

mysql> DESC professor;

```
+-----+-----+-----+-----+-----+-----+  
| Field      | Type | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| profnum    | int  | NO   | PRI | NULL    |      |  
| profname   | int  | YES  |     | NULL    |      |  
| sectionnum | int  | YES  | MUL | NULL    |      |  
| coursenum  | int  | YES  |     | NULL    |      |  
+-----+-----+-----+-----+-----+-----+  
4 rows in set (0.00 sec)
```

mysql> DESC student;

```
+-----+-----+-----+-----+-----+-----+  
| Field      | Type      | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| studentnum | int       | NO   | PRI | NULL    |      |  
| studentname | varchar(30) | YES  |     | NULL    |      |  
| GPA        | int       | YES  |     | NULL    |      |  
| sectionnum | int       | YES  | MUL | NULL    |      |  
| coursenum  | int       | YES  |     | NULL    |      |  
+-----+-----+-----+-----+-----+-----+  
5 rows in set (0.00 sec)
```

mysql> DESC offsitection;

```
+-----+-----+-----+-----+-----+-----+  
| Field      | Type      | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+-----+  
| location   | varchar(30) | YES  |     | NULL    |      |  
| sectionnum | int       | YES  |     | NULL    |      |  
+-----+-----+-----+-----+-----+-----+  
2 rows in set (0.00 sec)
```

mysql> DESC course;

| Field | Type | Null | Key | Default | Extra |
|------------|-------------|------|-----|---------|-------|
| coursenum | int | NO | PRI | NULL | |
| coursename | varchar(20) | YES | | NULL | |

2 rows in set (0.13 sec)

mysql> DESC section;

| Field | Type | Null | Key | Default | Extra |
|------------|------|------|-----|---------|-------|
| sectionnum | int | NO | PRI | NULL | |
| term | int | YES | | NULL | |

2 rows in set (0.00 sec)

mysql> DESC professor;

| Field | Type | Null | Key | Default | Extra |
|------------|------|------|-----|---------|-------|
| profnum | int | NO | PRI | NULL | |
| profname | int | YES | | NULL | |
| sectionnum | int | YES | MUL | NULL | |
| coursenum | int | YES | | NULL | |

4 rows in set (0.00 sec)

mysql> DESC student;

| Field | Type | Null | Key | Default | Extra |
|-------|------|------|-----|---------|-------|
|-------|------|------|-----|---------|-------|

```
+-----+-----+-----+-----+-----+
| studentnum | int      | NO  | PRI | NULL |      |
| studentname | varchar(30) | YES |      | NULL |      |
| GPA        | int      | YES |      | NULL |      |
| sectionnum  | int      | YES | MUL | NULL |      |
| coursenum   | int      | YES |      | NULL |      |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

mysql> DESC offsitesection;

```
+-----+-----+-----+-----+-----+
| Field    | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| location  | varchar(30) | YES  |      | NULL    |      |
| sectionnum | int        | YES  |      | NULL    |      |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

Q2

```
CREATE TABLE product (barcode VARCHAR(10) primary key, pname
VARCHAR(20), price int, quantityinstock int);
CREATE TABLE sale (saleid INT primary key, deliveryaddress
VARCHAR(20), creditcard int);
CREATE TABLE saleitem (saleid INT primary key, barcode
VARCHAR(10), quantity int);
```

Delimiter \$\$

```
CREATE TRIGGER updateAvailabilityQuantity
AFTER INSERT
ON saleitem
FOR EACH ROW BEGIN
UPDATE product
SET product.quantityinstock = product.quantityinstock - NEW.quantity
WHERE NEW.barcode = product.barcode;
```

END;
\$\$
Delimiter ;

```
select * from product;
+-----+-----+-----+-----+
| barcode | pname | price | quantityinstock |
+-----+-----+-----+-----+
| abcd   | phone | 10    | 10              |
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

```
insert into product values ('abcd', 'phone', 10, 10);
insert into saleitem values (1, 'abcd', 1);
```

```
select * from product;
+-----+-----+-----+-----+
| barcode | pname | price | quantityinstock |
+-----+-----+-----+-----+
| abcd   | phone | 10    | 9               |
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

Q3

```
create table emp (e_no integer(5) primary key, e_name varchar(20), pos
varchar(20), man_id integer(5), salary integer(5), foreign key(man_id)
references emp(e_no));
create table dept (d_no integer(5) primary key, d_name varchar(20));
create table company (e_no integer(5), d_no integer(5), joinDate date,
foreign key(e_no) references emp(e_no) on delete cascade, foreign
key(d_no) references dept(d_no) on update cascade);
insert into dept values (11,'Sales'),(22,'Development'),(33,'cleaning');
```

```
insert into emp values (1,'Ajay','guard',1,200),(2,'Aman','sde1',1,1200),
(3,'Amar','salesman',1,800),(4,'Ram','manager',1,1600),
(5,'Avi','sde2',1,1800);
insert into company values (1,33,'2022-3-11'),(2,22,'2022-6-3'),
(3,11,'2022-5-2'),(4,11,'2022-3-21'),(5,22,'2022-7-1');
```

(i)

```
mysql> select * from emp;
```

```
+-----+-----+-----+-----+-----+
| e_no | e_name | pos    | man_id | salary |
+-----+-----+-----+-----+-----+
|  1  | Ajay   | guard  |    1   |   200  |
|  2  | Aman   | sde1   |    1   |  1200  |
|  3  | Amar   | salesman |    1   |   800  |
|  4  | Ram    | manager |    1   |  1600  |
|  5  | Avi    | sde2   |    1   |  1800  |
+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> delete from emp where e_no = 3;
Query OK, 1 row affected (0.22 sec)
```

```
mysql> select * from emp;
```

```
+-----+-----+-----+-----+-----+
| e_no | e_name | pos    | man_id | salary |
+-----+-----+-----+-----+-----+
|  1  | Ajay   | guard  |    1   |   200  |
|  2  | Aman   | sde1   |    1   |  1200  |
|  4  | Ram    | manager |    1   |  1600  |
|  5  | Avi    | sde2   |    1   |  1800  |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

(ii)

```
mysql> select * from dept;
```

| d_no | d_name |
|------|-------------|
| 11 | Sales |
| 22 | Development |
| 33 | cleaning |

3 rows in set (0.00 sec)

```
mysql> update dept set d_no = 12 where d_no = 11;
```

Query OK, 1 row affected (0.09 sec)

Rows matched: 1 Changed: 1 Warnings: 0

```
mysql> select * from dept;
```

| d_no | d_name |
|------|-------------|
| 12 | Sales |
| 22 | Development |
| 33 | cleaning |

3 rows in set (0.00 sec)

(iii)

-- check in create table part