

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 offsite (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
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```
| 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     |       |
| courseenum     | 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 |
+-----+-----+-----+-----+-----+-----+
| courseenum     | 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     |       |
| courseenum    | 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     |       |
| courseenum     | int           | YES  |     | NULL     |       |
+-----+-----+-----+-----+-----+-----+
```

```
+-----+-----+-----+-----+-----+
| 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)
```

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','manage
r',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  |
+-----+-----+
```

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```
| 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