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SEM: 4

SRN: PES1UG19EC339

DBMS LAB WEEK-3

1.

```
varsha=# create table STUDENT(
id integer NOT NULL,
Name varchar(30) not NULL,
Dept_name char(20) not NULL,
tot_credits integer not NULL,
PRIMARY KEY(id));
CREATE TABLE
varsha=# insert into student values(1,'varsha','ECE',24);
INSERT 0 1
varsha=# insert into student values(4,'Preeti','CSE',28);
INSERT 0 1
```

```
varsha=# select *from student;
 id |  name   |      dept_name       | tot_credits
----+---------+----------------------+-------------
  1 | varsha  | ECE                  |          24
  4 | Preeti  | CSE                  |          28
  3 | Akhil   | CSE                  |          22
  6 | soumya  | ECE                  |          21
  2 | Swati   | ECE                  |          20
  7 | Shravya | ECE                  |          21
  8 | Archana | MECH                 |          20
  9 | shwetha | ECE                  |          24
 11 | Shree   | ISE                  |          29
  5 | Kruti   | MECH                 |          27
(10 rows)
```

2.

```
varsha=# create table Takes(
id integer NOT NULL,
course_id char(8) not NULL,
sec_id integer not null,
sem varchar(6),
year char(10),
grade char(10) not null,
PRIMARY KEY(course_id,id,sec_id,sem,year),
FOREIGN KEY(id) references student on delete cascade);
CREATE TABLE
varsha=# insert into Takes values(1,'EC101',21,'FALL',2018,'A');
INSERT 0 1
```

```
varsha=# select * from takes;
 id | course_id | sec_id |  sem   |    year    |   grade
----+-----------+--------+--------+------------+-----------
  1 | EC101     |     21 | FALL   | 2018       | A
  2 | CS201     |     13 | WINTER | 2017       | S
  3 | CS202     |     12 | SUMMER | 2017       | B
  4 | EC301     |     22 | SPRING | 2016       | A
  5 | EC201     |     21 | SUMMER | 2018       | C
  6 | CV406     |      9 | WINTER | 2019       | C
  1 | MA212     |     15 | FALL   | 2019       | S
  8 | EE316     |     11 | WINTER | 2013       | B
 11 | CS212     |     21 | FALL   | 2018       | A
  9 | BT312     |     22 | SUMMER | 2019       | B
(10 rows)
```

3.

```
varsha=# create table SECTION(
varsha(# course_id char(8) not NULL,
varsha(# sec_id int not NULL,
varsha(# sem varchar(6),
varsha(# year char(10),
varsha(# building varchar(10),
varsha(# room_no integer,
varsha(# time_slot_id char(10),
varsha(# PRIMARY KEY(course_id,sec_id,sem,year),
varsha(# FOREIGN KEY(course_id) references course on delete cascade,
varsha(# FOREIGN KEY(building,room_no)references classroom on delete set null
varsha(# );
CREATE TABLE
```

```
varsha=# select *from section;
 course_id | sec_id |  sem   |    year    | building | room_no | time_slot_id
-----------+--------+--------+------------+----------+---------+--------------
 EC101     |     21 | FALL   | 2018       | F-block  |     102 | 121
 CS201     |     15 | SUMMER | 2019       | H-block  |     201 | 123
 BT202     |     22 | SPRING | 2016       | A-block  |     505 | 124
 EC201     |     11 | WINTER | 2013       | V-block  |     103 | 126
 CV406     |     21 | SPRING | 2018       | J-block  |     101 | 127
 MA212     |     13 | FALL   | 2017       | K-block  |     410 | 128
 EE316     |     21 | SUMMER | 2013       | L-block  |     510 | 129
 CS212     |     22 | FALL   | 2017       | M-block  |     401 | 130
 EC301     |      9 | SUMMER | 2019       | B-block  |     301 | 125
 CS212     |     22 | WINTER | 2014       | M-block  |     401 | 131
(10 rows)
```

4.

```
varsha=# create table Time_slot(
varsha(# time_slot_id int,
varsha(# day char(10),
varsha(# start_time numeric(4,2),
varsha(# end_time numeric(4,2),
varsha(# PRIMARY KEY(time_slot_id));
CREATE TABLE
```

```
varsha=# select * from time_slot;
 time_slot_id |    day     | start_time | end_time
--------------+------------+------------+----------
          121 | MONDAY     |       8.00 |    10.00
          122 | SUNDAY     |      11.00 |     1.00
          123 | WEDNESDAY  |       3.00 |     5.00
          124 | SATURDAY   |       5.00 |     7.00
          131 | FRIDAY     |       8.00 |    10.00
          126 | TUESDAY    |      11.00 |     1.00
          127 | MONDAY     |       1.00 |     3.00
          128 | THURSDAY   |       2.00 |     4.00
          129 | MONDAY     |      11.00 |     1.00
          130 | FRIDAY     |       3.00 |     5.00
(10 rows)
```

5.

```
varsha=# create table classroom(
varsha(# building varchar(10),
varsha(# room_no int,
varsha(# capacity int,
varsha(# PRIMARY KEY(building,room_no));
CREATE TABLE
varsha=# insert into classroom values('F-block',102,60);
INSERT 0 1
varsha=# insert into classroom values('G-block',202,40);
INSERT 0 1
```

```
varsha=# select * from classroom;
 building | room_no | capacity
----------+---------+----------
 F-block  |     102 |       60
 G-block  |     202 |       40
 H-block  |     201 |       50
 A-block  |     505 |       60
 B-block  |     301 |       50
 V-block  |     103 |       60
 J-block  |     101 |       50
 K-block  |     410 |       40
 L-block  |     510 |       40
 M-block  |     401 |       60
(10 rows)
```

6.

```
varsha=# create table Teaches(
varsha(# i_id varchar(6) not null,
varsha(# course_id char(10) not null,
varsha(# sec_id int not null,
varsha(# sem varchar(6),
varsha(# year char(10),
varsha(# PRIMARY KEY(i_id)
varsha(# );
CREATE TABLE
varsha=# insert into Teaches values(11,'EC101',21,'FALL',2018);
INSERT 0 1
varsha=# insert into Teaches values(12,'CS201',9,'WINTER',2019);
INSERT 0 1
varsha=# insert into Teaches values(13,'MA212',15,'SUMMER',2019);
```

```
varsha=# select *from teaches;
 i_id | course_id  | sec_id |  sem   |    year
------+------------+--------+--------+---------
 11   | EC101      |     21 | FALL   | 2018
 12   | CS201      |      9 | WINTER | 2019
 13   | MA212      |     15 | SUMMER | 2019
 14   | EC301      |     22 | SPRING | 2016
 15   | CV101      |      9 | SUMMER | 2019
 16   | EE316      |     11 | WINTER | 2013
 17   | CS212      |     21 | SPRING | 2018
 18   | CV406      |     13 | FALL   | 2017
 19   | CS212      |     21 | SUMMER | 2013
 20   | BT201      |     22 | FALL   | 2019
(10 rows)
```

7.

```
varsha=# create table INSTRUCTOR(
varsha(# i_id varchar(6) not null,
varsha(# name varchar(10) not null,
varsha(# dept_name char(20) not null,
varsha(# salary numeric(8,2),
varsha(# PRIMARY KEY(i_id),
varsha(# FOREIGN KEY(dept_name) references dept on delete set null);
CREATE TABLE
varsha=# insert into instructor values(151,'Jennie','Electronics',30000.00);
INSERT 0 1
```

```
varsha=# select *from instructor;
 i_id |  name  |      dept_name       |  salary
------+--------+----------------------+----------
 151  | Jennie | Electronics          | 30000.00
 153  | remo   | Electrical           | 32000.00
 154  | laura  | Biotech              | 33000.00
 155  | Alia   | Information science  | 30000.00
 156  | Raghav | Mechanical           | 35000.00
 157  | Noobie | ML                   | 30000.00
 158  | Peter  | Civil                | 37000.00
 159  | tomnus | Robotics             | 34000.00
 160  | jonus  | Chemistry            | 35648.00
 152  | Candy  | Computer science     | 35000.00
(10 rows)
```

8.

```
varsha=# create table Dept(
dept_name char(20) not null,
building varchar(10),
Budget numeric(12,2),
PRIMARY KEY(dept_name));
CREATE TABLE
varsha=# insert into Dept values('Electronics','F-block',12000.00);
INSERT 0 1
varsha=# insert into Dept values('Computer science','B-block',10000.00);
INSERT 0 1
```

```
varsha=# select * from dept
varsha-# ;
      dept_name       | building |  budget
----------------------+----------+-----------
 Electronics          | F-block  |  12000.00
 Computer science     | B-block  |  10000.00
 Electrical           | A-block  |  15000.00
 Biotech              | G-block  | 120000.00
 Information science  | C-block  |  13070.00
 Mechanical           | H-block  |  16000.00
 ML                   | K-block  |  12555.00
 Civil                | L-block  |  16600.00
 Robotics             | J-block  | 100000.00
 Chemistry            | M-block  |  17860.00
(10 rows)
```

9.

```
varsha=# create table Advisor(
varsha(# id int,
varsha(# i_id varchar(7),
varsha(# PRIMARY KEY(id),
varsha(# FOREIGN KEY(i_id) references instructor(i_id),
varsha(# FOREIGN KEY(id) references student(id)
varsha(# );
CREATE TABLE
```

```
varsha=# select *from Advisor;
 id | i_id
----+------
  1 | 151
  4 | 153
  3 | 154
  6 | 155
  2 | 156
  7 | 157
  8 | 158
  9 | 159
 11 | 160
  5 | 152
(10 rows)
```

10.

```
varsha=# create table Course(
varsha(# course_id char(8) not NULL,
varsha(# title char(50),
varsha(# dept_name char(50) not null,
varsha(# credits int,
varsha(# PRIMARY KEY(course_id),
varsha(# FOREIGN KEY(dept_name) references dept on delete set null);
CREATE TABLE
varsha=# insert into course values('EC101','Analog circuit design','Electronics',4);
INSERT 0 1
varsha=# insert into course values('CS202','design algorithm','Computer science',4);
INSERT 0 1
varsha=# insert into course values('CS201','MPCA','Electrical',3);
INSERT 0 1
```

```
varsha=# select *from course;
 course_id |                    title                    |                  dept_name                  | credits
-----------+---------------------------------------------+---------------------------------------------+---------
 EC101     | Analog circuit design                       | Electronics                                 |       4
 CS202     | design algorithm                            | Computer science                            |       4
 CS201     | MPCA                                        | Electrical                                  |       3
 BT202     | DDCO                                        | Biotech                                     |       4
 EC301     | Network analysis                            | Information science                         |       4
 EC201     | Embedded system design                      | Mechanical                                  |       3
 CV406     | Mechanics                                   | ML                                          |       2
 MA212     | Linear Algebra                              | Civil                                       |       4
 EE316     | Electrical sciences                         | Robotics                                    |       2
 CS212     | computer networking                         | Chemistry                                   |       2
(10 rows)
```

11.

```
varsha=# create table Prereq(
varsha(# course_id char(8),
varsha(# prereq_id char(8),
varsha(# PRIMARY KEY(course_id,prereq_id),
varsha(# FOREIGN KEY(course_id) references course on delete cascade);
CREATE TABLE
varsha=# insert into prereq values('EC101','101');
INSERT 0 1
varsha=# insert into prereq values('CS202','102');
INSERT 0 1
```

```
varsha=# select *from prereq;
 course_id | prereq_id
-----------+-----------
 EC101     | 101
 CS202     | 102
 CS201     | 103
 BT202     | 104
 EC301     | 105
 EC201     | 106
 CV406     | 107
 MA212     | 108
 EE316     | 109
 CS212     | 110
(10 rows)
```