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MCA
Semester -II

MA611 - Database Management Systems Lab

```
create table classroom (
  building varchar(15),
  room_number varchar(7),
  capacity numeric(4,0),
  primary key (building ,room_number)
;
```

OUTPUT

```
SQL> DESC classroom
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------
 BUILDING                                  NOT NULL VARCHAR2(15)
 ROOM_NUMBER                               NOT NULL VARCHAR2(7)
 CAPACITY                                           NUMBER(4)
```

```
create table department(
  debt_name varchar(20),
  building varchar(15),
  budget numeric(12,2) check(budget >0) ,
  primary key (debt_name)

);
```

OUTPUT-

```
SQL> DESC department
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 DEBT_NAME                                 NOT NULL VARCHAR2(20)
 BUILDING                                           VARCHAR2(15)
 BUDGET                                             NUMBER(12,2)
```

```
CREATE TABLE course (
    course_id VARCHAR(8),
    title VARCHAR(50),
    dept_name VARCHAR(20),
    credits NUMERIC(2,0) CHECK (credits > 0),
```

```
    PRIMARY KEY (course_id),
    FOREIGN KEY (dept_name) REFERENCES department ON DELETE SET NULL
);
```

OUTPUT-

```
SQL> desc course
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 COURSE_ID                                 NOT NULL VARCHAR2(8)
 TITLE                                              VARCHAR2(50)
 DEBT_NAME                                          VARCHAR2(20)
 CREDITS                                            NUMBER(2)
```

```
create table instructor(
ID varchar (5),
name varchar(20) not null ,
debt_name varchar(20),
salary numeric(8,2) CHECK (salary >29000),
primary key(ID) ,
foreign key(debt_name) references department
on delete set null
 );
```

OUTPUT-

```
SQL> desc instructor
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ID                                        NOT NULL VARCHAR2(5)
 NAME                                      NOT NULL VARCHAR2(20)
 DEBT_NAME                                          VARCHAR2(20)
 SALARY                                             NUMBER(8,2)
```

```
create table section (
course_id varchar(8),
sec_id varchar(8),
semester varchar(6),
check (semester in ('Fall', 'Winter','Spring' ,'Summer')),
year numeric(4,0) check (year>1701 and year <2100),
building varchar(15),
room_number varchar(7),
time_slot_id varchar(4),
primary key(course_id ,sec_id,semester,year),
foreign key (course_id) references course
on delete cascade ,
foreign key (building ,room_number) references classroom
 14  on delete set null);
```

OUTPUT-

```
SQL> desc section
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 COURSE_ID                                 NOT NULL VARCHAR2(8)
 SEC_ID                                    NOT NULL VARCHAR2(8)
 SEMESTER                                  NOT NULL VARCHAR2(6)
 YEAR                                      NOT NULL NUMBER(4)
 BUILDING                                           VARCHAR2(15)
 ROOM_NUMBER                                        VARCHAR2(7)
 TIME_SLOT_ID                                       VARCHAR2(4)
```

```
create table teaches (
ID varchar(5),
course_id varchar(8),
sec_id varchar(8),
semester varchar(6),
year numeric(4,0),
primary key(ID ,course_id ,sec_id,semester,year),
foreign key (course_id,sec_id,semester,year) references section
on delete cascade ,
foreign key (ID) references instructor
on delete cascade );
```

OUTPUT-

```
SQL> desc teaches
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ID                                        NOT NULL VARCHAR2(5)
 COURSE_ID                                 NOT NULL VARCHAR2(8)
 SEC_ID                                    NOT NULL VARCHAR2(8)
 SEMESTER                                  NOT NULL VARCHAR2(6)
 YEAR                                      NOT NULL NUMBER(4)
```

```
create table student (
ID varchar(5),
name varchar(20) not null ,
debt_name varchar(20),
tot_cred numeric(3,0) check (tot_cred >=0),
primary key(ID),
foreign key (debt_name) references department
on delete set null
);
```

```
SQL> desc student
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ID                                        NOT NULL VARCHAR2(5)
 NAME                                      NOT NULL VARCHAR2(20)
 DEBT_NAME                                          VARCHAR2(20)
 TOT_CRED                                           NUMBER(3)
```

OUTPUT -

```
create table takes(
ID varchar(5),
course_id varchar(8),
sec_id varchar(8),
semester varchar(6),
year numeric(4,0),
grade varchar (2),
primary key (ID ,course_id ,sec_id,semester,year),
foreign key (course_id,sec_id,semester,year) references section
on delete cascade ,
foreign key (ID) references student
on delete cascade );
```

OUTPUT-

```
SQL> desc takes
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 ID                                        NOT NULL VARCHAR2(5)
 COURSE_ID                                 NOT NULL VARCHAR2(8)
 SEC_ID                                    NOT NULL VARCHAR2(8)
 SEMESTER                                  NOT NULL VARCHAR2(6)
 YEAR                                      NOT NULL NUMBER(4)
 GRADE                                              VARCHAR2(2)
```

```
create table advisor
( s_Id varchar(5) ,
i_ID varchar (5) ,
primary key (s_ID),
foreign key (i_ID) references instructor(ID)
on delete set null ,
foreign key (s_ID) references student (ID)
on delete cascade );
```

OUTPUT-

```
SQL> desc advisor
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 S_ID                                      NOT NULL VARCHAR2(5)
 I_ID                                               VARCHAR2(5)
```

```
create table time_slot(
time_slot_id varchar(4),
day varchar(1),
start_hr numeric(2) check (start_hr >=0 and start_hr <24),
```

```
start_min numeric(2) check (start_min >=0 and start_min < 60),
end_hr numeric(2) check (end_hr >=0 and end_hr <24),
end_min numeric(2) check (end_min >=0 and end_min < 60),
primary key (time_slot_id, day ,start_hr,start_min)
 );
```

OUTPUT -

```
SQL> desc time_slot
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 TIME_SLOT_ID                              NOT NULL VARCHAR2(4)
 DAY                                       NOT NULL VARCHAR2(1)
 START_HR                                  NOT NULL NUMBER(2)
 START_MIN                                 NOT NULL NUMBER(2)
 END_HR                                             NUMBER(2)
 END_MIN                                            NUMBER(2)
```

```
create table prereq (
course_id varchar(8),
prereq_id varchar(8),
primary key(course_id ,prereq_id),
foreign key (course_id) references course
on delete cascade,
foreign key (prereq_id) references course
 );
```

OUTPUT-

```
SQL> desc prereq
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 COURSE_ID                                 NOT NULL VARCHAR2(8)
 PREREQ_ID                                 NOT NULL VARCHAR2(8)
```