

Q.1) Practical Questions on PostgreSQL

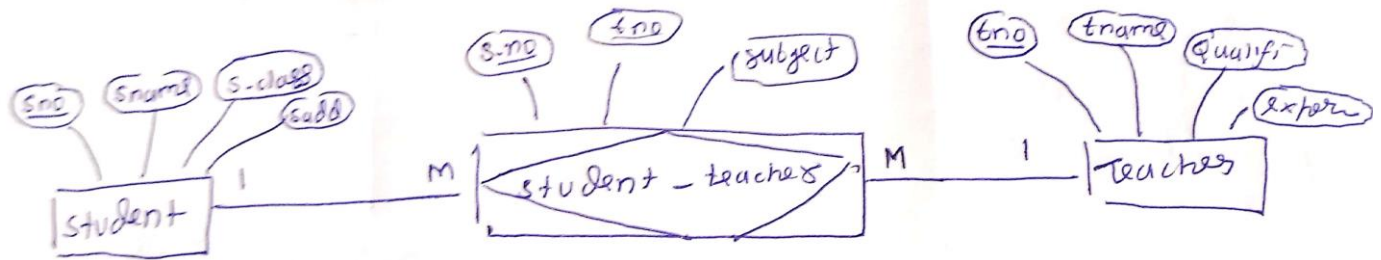
Consider the following database

Student (sno, s_name, s_class, s_addr)

Teacher (tno, t_name, qualification, experience)

Student-Teacher: M-M with descriptive attributes Subject.

a) Draw the ER diagram for above relational schema and normalize it in 3NF.



b) Create the above database in 3NF form in PostgreSQL using constraints.

```
create table stud(sno int primary key,sname varchar(20),sclass text,addr text);
```

```
create table teacher(tno int primary key,tname varchar(20),qualification text, experience int);
```

```
create table stte(sno int,tno int,subject text,primary key(sno,tno),foreign key(sno)references stud(sno),foreign key(tno)references teacher(tno));
```

```
insert into stud values(1,'Kunal','FYBCA','Beed'),(2,'Hrushii','SYBCA','Alandi'),(3,'Tushar','TYBCA','Pune'),(4,'Aditya','FYBCA','Pimpri'),(5,'Sujal','SYBCA','Nashik');
```

```
insert into teacher values(11,'Mr.Rajesh','MPhil',5),(12,'Mr.Kumar','BED',4),(13,'Mrs.Tejaswee','MPhil',3),(14,'Mrs.Aarya','PhD',7),(15,'Mr.Kunal','Diploma',4);
```

```
insert into stte values(1,11,'DBMS'),(2,12,'Computer'),(3,13,'C'),(4,14,'OS'),(5,15,'CO'), (4,12,'DBMS'),(2,11,'OS');
```

Q2.) Using above database, solve the following queries:

a) List teacher details who taught subject 'DBMS'.

```
select * from teacher where tno in(select tno from stte where subject='DBMS');
```

b) Find student details with teacher name who taught class 'F.Y.B.C.A'.

```
select stud.sname,stud.sclass,teacher.tname from stud join stte on stud.sno=stte.sno join teacher on stte.tno=teacher.tno where stud.sclass='FYBCA';
```

c) Find the maximum experience details of teacher.

```
select * from teacher where experience=(select max(experience) from teacher);
```

d) Update teacher qualification to 'Ph.D' of 'Mr.Kumar'.

```
update teacher set qualification='Ph.D' where tname='Mr.Kumar';
```