

SET C- Student- Teacher database

Consider the following database maintained by a school. The school maintains information about students and the teachers. It also gives information of the subject taught by the teacher.

Following are the tables: STUDENT (SNO INTEGER, S_NAME CHAR(30), S_CLASS

CHAR(10), S_ADDR CHAR(50)) TEACHER (TNO INTEGER, T_NAME CHAR (20),

QUALIFICATION CHAR (15),EXPERIENCE INTEGER) The relationship is as follows:

STUDENT-TEACHER: M-M with descriptive attribute SUBJECT

Q.1. Write a function to accept teacher name as input & returns the number of students taught by the teacher.

Q.2. Write a function to accept name of subject & count the number of teachers who teach that subject.

Q3. Write a function to accept student name & calculate the total marks obtained by that student.

```
CREATE TABLE students
```

```
(
```

```
sno integer primary key,
```

```
sname varchar(50),
```

```
sclass varchar(20),
```

```
saddr varchar(100)
```

```
);
```

```
INSERT INTO students VALUES (1, 'Amol', 'FYBCA','pune');
```

```
INSERT INTO students VALUES (2,'Archana', 'FYBCA','pune');
```

```
INSERT INTO students VALUES (3,'Kiran', 'FYBCA','pune');
```

```
INSERT INTO students VALUES (4,'Amar','SYBCA','pune');
```

```
INSERT INTO students VALUES (5,'Suresh','TYBCA','pune');
```

```
SELECT * FROM students;
```

```
create table teacher
```

```
(
```

```
tno integer primary key,
```

```
tname varchar(20),
```

```
qualification varchar(15),
```

```
experience integer
```

```
);
```

```
INSERT into teacher values(1,'Kumar','PHD',10);
```

```
INSERT into teacher values(2,'Veena','MPHIL',16);
INSERT into teacher values(3,'Ketki','MCS',2);
INSERT into teacher values(4,'Manisha','MCA',5);
INSERT into teacher values(5,'Prakash','MCA',3);
```

```
select * from teacher;
```

```
create table students_teacher
(
sno integer references students(sno),
tno integer references teacher(tno),
subject char(30),
marks integer
);
```

```
insert into students_teacher values(5,1,'C',60);
insert into students_teacher values(4,1,'C++',75);
insert into students_teacher values(2,1,'C',80);
insert into students_teacher values(3,2,'DS',78);
insert into students_teacher values(4,3,'ADBMS',70);
```

```
select *from students_teacher;
```

Q.1. Write a function to accept teacher name as input & returns the number of students taught by the teacher.

```
create or replace function tech_cnt(name text) returns int as'
declare
cnt integer;
begin
select into cnt count(*)
from students a,teacher b,students_teacher c
where tname= name
and a.sno=c.sno
and b.tno=c.tno;
return cnt;
end;
'Language 'plpgsql';

select tech_cnt('Kumar');
select tech_cnt('Veena');
```

Q.2. Write a function to accept name of subject & count the number of teachers who teach that subject.

```
create or replace function sub_cnt(name text) returns int as'
declare
no integer;
cnt integer;
begin
select into cnt distinct count(tno)
from students_teacher
where subject= name
group by tno;
return cnt;
end;
'Language 'plpgsql';

select sub_cnt('DS');
select sub_cnt('C');
```

Q3. Write a function to accept student name & calculate the total marks obtained by that student.

```
create or replace function sub_sum(name text) returns int as'
declare
cnt integer;
begin
select into cnt sum(marks)
from students a, teacher b, students_teacher c
where sname= name
and a.sno=c.sno
and b.tno=c.tno
group by c.sno;
return cnt;
end;
'Language 'plpgsql';
```

```
select sub_sum('Suresh');
```