Practice Questions on Creating SQL Statements

Consider the following collection of relation schemas:

Professor(profname, deptname)
Department(deptname, building)
Committee(commname, profname)

1. Find all the professors who are in any one of the committees that professor Piper is in.

2. Find all the professors who are in at least all those committees that professor Piper is in.

3. Find all the professors who have not offices in any of those buildings that Professor Piper has offices in.

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Answers

1. Find all the professors who are in any one of the committees that professor Piper is in.

```
SELECT DISTINCT B.profname
FROM committee A, committee B
WHERE A.profname = 'Piper' AND B.commname = A.commname

or

SELECT DISTINCT profname
FROM committee
WHERE commname IN
        (SELECT commname
         FROM committee
         WHERE profname = 'Piper')
```

2. Find all the professors who are in at least all those committees that professor Piper is in.

```
SELECT DISTINCT B.profname
FROM committee B
WHERE NOT EXISTS (
        (SELECT commname
        FROM committee A
        WHERE profname = 'Piper')
        EXCEPT
        (SELECT commname
         FROM committee A
         WHERE A.profname = B.profname)
)
```

   Note that in Oracle, we would use 'minus' rather than 'except' in this query.

3. Find all the professors who have not offices in any of those buildings that Professor Piper has offices in.

```
SELECT DISTINCT P.profname
FROM professor P
WHERE NOT EXISTS (
       (SELECT building
        FROM department D
        WHERE P.deptname = D.deptname )
        INTERSECT
       (SELECT building
        FROM department D1, professor P1
        WHERE  P1.profname = 'Piper' AND P1.deptname = D1.deptname)
)
```