

# Using Null

## 1.

List the teachers who have NULL for their department.

*Why we cannot use =*

```
select name from teacher  
where dept is NULL
```

## 2.

Note the INNER JOIN misses the teachers with no department and the departments with no teacher.

```
SELECT teacher.name, dept.name  
FROM teacher INNER JOIN dept  
ON (  
teacher.dept=dept.id)  
where dept is not Null
```

## 3.

Use a different JOIN so that all teachers are listed.

```
select teacher.name, dept.name  
from teacher  
left join dept on (  
teacher.dept=dept.id)
```

## 4.

Use a different JOIN so that all departments are listed.

```
SELECT teacher.name, dept.name  
FROM teacher RIGHT JOIN dept
```

ON (  
teacher.dept=dept.id)

5.

Use COALESCE to print the mobile number. Use the number '07986 444 2266' if there is no number given. **Show teacher name and mobile number or '07986 444 2266'**

SELECT teacher.name, COALESCE(teacher.mobile,'07986 444 2266') FROM teacher

6.

Use the COALESCE function and a LEFT JOIN to print the teacher **name** and department name. Use the string 'None' where there is no department.

SELECT teacher.name, COALESCE(dept.name, 'None') FROM teacher  
LEFT JOIN dept ON teacher.dept =  
dept.id

7.

Use COUNT to show the number of teachers and the number of mobile phones.

select count(name), count(mobile)  
from teacher

8.

Use COUNT and GROUP BY **dept.name** to show each department and the number of staff. Use a RIGHT JOIN to ensure that the Engineering department is listed.

SELECT dept.name, COUNT(teacher.dept) FROM teacher  
RIGHT JOIN dept ON  
dept.id = teacher.dept  
GROUP BY  
dept.name

## 9.

Use CASE to show the **name** of each teacher followed by 'Sci' if the teacher is in **dept** 1 or 2 and 'Art' otherwise.

```
select name,CASE WHEN dept IN (1,2) THEN 'Sci'  
ELSE 'Art'  
END  
FROM teacher
```

## 10.

Use CASE to show the name of each teacher followed by 'Sci' if the teacher is in dept 1 or 2, show 'Art' if the teacher's dept is 3 and 'None' otherwise.

```
select name,CASE WHEN dept IN (1,2) THEN 'Sci'  
when dept = 3 THEN 'Art'  
else 'None'  
END  
FROM teacher
```

## QUIZ:

1. Select the code which uses an outer join correctly.

```
SELECT teacher.name, dept.name FROM teacher LEFT OUTER JOIN dept ON (teacher.dept = dept.id)
```

2. Select the correct statement that shows the name of department which employs Cutflower -

```
SELECT dept.name FROM teacher JOIN dept ON (dept.id = teacher.dept) WHERE teacher.name = 'Cutflower'
```

3. Select out of following the code which uses a JOIN to show a list of all the departments and number of employed teachers

```
SELECT dept.name, COUNT(teacher.name) FROM teacher RIGHT JOIN dept ON dept.id = teacher.dept
GROUP BY dept.name
```

4. Using `SELECT name, dept, COALESCE(dept, 0) AS result FROM teacher` on `teacher` table will:

**display 0 in result column for all teachers without department**

5. Query:

```
SELECT name,
CASE
  WHEN phone = 2752 THEN 'two'
  WHEN phone = 2753 THEN 'three'
  WHEN phone = 2754 THEN 'four'
END AS digit
FROM teacher
```

shows following 'digit':

**'four' for Throd**

6. Select the result that would be obtained from the following code:

```
SELECT name,
CASEWHEN dept
IN (1)
THEN 'Computing'
ELSE 'Other'
ENDFROM teacher
```

Shrivell	Computing
Throd	Computing
Splint	Computing
Spiregrain	Other
Cutflower	Other
Deadyawn	Other