

## Using Null

teacher				
id	dept	name	phone	mobile
101	1	Shrivell	2753	07986 555 1234
102	1	Throd	2754	07122 555 1920
103	1	Splint	2293	
104		Spiregrain	3287	
105	2	Cutflower	3212	07996 555 6574
106		Deadyawn	3345	
...				
dept				
id	name			
1	Computing			
2	Design			
3	Engineering			
...				

### Teachers and Departments

The school includes many departments. Most teachers work exclusively for a single department. Some teachers have no department.

[Selecting NULL values.](#)

Summary

## NULL, INNER JOIN, LEFT JOIN, RIGHT JOIN

### 1. 😊

List the teachers who have NULL for their department.

*Why we cannot use =*

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

Submit SQL

Restore default

result

### 2. 😐

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

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

Submit SQL

Restore default

result

### 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)
```

Submit SQL

Restore default

result

### 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)
```

Submit SQL

Restore default

result

Using the COALESCE function

### 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(mobile, '07986 444 2266')
FROM teacher
```

Submit SQL

Restore default

result

### 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
```

Submit SQL

Restore default

#### Correct answer

name	COALESCE(dept..
Shrivell	Computing
Throd	Computing
Splint	Computing
Spiregrain	None
Cutflower	Design
Deadyawn	None

### 7. 😐

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

```
SELECT COUNT(name), COUNT(mobile)
FROM teacher
```

Submit SQL

Restore default

#### Correct answer

COUNT(name)	COUNT(mobile)
6	3

### 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.name)
FROM teacher right JOIN dept ON teacher.dept = dept.id
GROUP BY dept.name
```

Submit SQL

Restore default

#### Correct answer

name	COUNT(teacher..
Computing	3
Design	1
Engineering	0

Using CASE

### 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 = 1 OR dept = 2) THEN 'Sci'
ELSE 'Art'
END
FROM teacher
```

Submit SQL

Restore default

#### Correct answer

name	CASE WHEN (de..
Shrivell	Sci
Throd	Sci
Splint	Sci
Spiregrain	Art
Cutflower	Sci
Deadyawn	Art

### 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 = 1 OR dept = 2 THEN 'Sci'
      WHEN dept = 3 THEN 'Art'
      ELSE 'None'
END
FROM teacher
```

Submit SQL

Restore default

#### Correct answer

name	CASE WHEN dep..
Shrivell	Sci
Throd	Sci
Splint	Sci
Spiregrain	None
Cutflower	Sci
Deadyawn	None

Clear your results

[Using Null Quiz](#)