

# SQLZoo

Unofficial answers to sqlzoo exercises found here: [https://sqlzoo.net/wiki/Using\\_Null](https://sqlzoo.net/wiki/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
...	

## Using NULL

1. List the teachers who have NULL for their department.

```
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);
```

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 name, COALESCE(mobile, '07986 444 2266') AS mobile 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') AS dept 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(DISTINCT id) AS teacher_n, COUNT(mobile) AS mobile_n 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.id) AS teacher_n FROM teacher RIGHT JOIN dept  
ON(teacher.dept = dept.id)  
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 = 1 OR dept = 2 THEN 'Sci' ELSE 'Art' END AS  
dept_type 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 = 1 OR dept = 2 THEN 'Sci' WHEN dept = 3 THEN 'Art'  
ELSE 'None' END AS dept_type FROM teacher;
```