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 DISTINCT teacher.name
FROM teacher, dept
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 INNER 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

result

7.

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

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

Submit SQL Restore default

result

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

result

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 teacher.name, CASE WHEN dept=1 or dept=2 THEN 'Sci' ELSE 'Art' END
FROM teacher LEFT JOIN dept ON (teacher.dept=dept.id)
```

Submit SQL Restore default

result

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 teacher.name,
   CASE
   WHEN dept=1 or dept=2 THEN 'Sci'
   WHEN dept=3 THEN'Art'
   ELSE 'None'
   END
FROM teacher LEFT JOIN dept ON (teacher.dept=dept.id)
```

Submit SQL Restore default

result

Clear your results

Using Null Quiz
