

Language: English · 日本語 · 中文

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
...	

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

Selecting NULL values.

Summary

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

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 name, COALESCE(mobile, '07986 444 2266') AS mobile FROM teacher;
```

[Submit SQL](#)[Restore default](#)

Correct answer

name	mobile
Shrivell	07986 555 1234
Throd	07122 555 1920
Splint	07986 444 2266
Spiregrain	07986 444 2266
Cutflower	07996 555 6574
Deadyawn	07986 444 2266

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 department FROM teacher  
LEFT JOIN dept ON teacher.dept = dept.id;
```

[Submit SQL](#)[Restore default](#)

Correct answer

name	department
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) AS num_of_teachers, COUNT(mobile) AS num_of_phones FROM teacher;
```

[Submit SQL](#)[Restore default](#)

Correct answer

num_of_teache..	num_of_phones
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) AS num_of_staff FROM teacher  
RIGHT JOIN dept ON teacher.dept = dept.id  
GROUP BY dept.name;
```

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Correct answer

name	num_of_staff
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
AS department FROM teacher;
```

Submit SQL

Restore default

Correct answer

name	department
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
AS department FROM teacher;
```

[Submit SQL](#)[Restore default](#)

Correct answer

name	department
Shrivell	Sci
Throd	Sci
Splint	Sci
Spiregrain	None
Cutflower	Sci
Deadyawn	None

[Clear your results](#)[Using Null Quiz](#)

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