Using Null

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
...	

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

Correct answer

name
Spiregrain
Deadyawn

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

Correct answer

name	name
Shrivell	Computing
Throd	Computing
Splint	Computing
Cutflower	Design

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)
```

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Correct answer

name	name
Shrivell	Computing
Throd	Computing
Splint	Computing
Spiregrain	null
Cutflower	Design
Deadyawn	null

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

Correct answer

name	name
Shrivell	Computing
Throd	Computing
Splint	Computing
Cutflower	Design
null	Engineering

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') from teacher
```

Submit SQL restore default

Correct answer

name	COALESCE(mobile,'07986 444 2266')
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') from teacher left join
dept on teacher.dept = dept.id
```

Submit SQL restore default

Correct answer

name	COALESCE(dept.name,'None')
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.name)
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 IN (1, 2) THEN 'Sci'
        ELSE 'Art'
    END AS category
FROM teacher;
```

Submit SQL restore default

Correct answer

name	category
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 in (1,2) then 'Sci'
    when dept = 3  then 'art'
    else 'None'
end

 from teacher ;
```

Submit SQL restore default

Correct answer

name	case when dept in (1,2) then 'Sci' when dept = 3 then 'art' else 'None' end
Shrivell	Sci
Throd	Sci
Splint	Sci
Spiregrain	None
Cutflower	Sci
Deadyawn	None

Clear your results

Using Null Quiz

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