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18 Essential SQL Interview Questions*

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What does `UNION` do? What is the difference between `UNION` and `UNION ALL` ?

[View the answer →](#)

List and explain the different types of `JOIN` clauses supported in ANSI-standard SQL.

[View the answer →](#)

Consider the following two query results:

```
SELECT count(*) AS total FROM orders;
```

```
+-----+  
| total |  
+-----+  
|  100  |  
+-----+
```

```
SELECT count(*) AS cust_123_total FROM orders
```

```
+-----+  
| cust_123_total |  
+-----+  
|          15    |  
+-----+
```



Given the above query results, what will be the result of the query below?

```
SELECT count(*) AS cust_not_123_total FROM or
```

[View the answer →](#)

What will be the result of the query below? Explain your answer and provide a version that behaves correctly.

```
select case when null = null then 'Yup' else
```

[View the answer →](#)

Given the following tables:

```
sql> SELECT * FROM runners;
```

| id | name |
|----|-------------|
| 1 | John Doe |
| 2 | Jane Doe |
| 3 | Alice Jones |
| 4 | Bobby Louis |
| 5 | Lisa Romero |

```
sql> SELECT * FROM races;
```

| id | event | winner_id |
|----|----------------|-----------|
| 1 | 100 meter dash | 2 |
| 2 | 500 meter dash | 3 |
| 3 | cross-country | 2 |
| 4 | triathlon | NULL |

What will be the result of the query below?

```
SELECT * FROM runners WHERE id NOT IN (SELECT
```

Explain your answer and also provide an alternative version of this query that will avoid the issue that it exposes.

[View the answer →](#)

Given two tables created and populated as follows:

```
CREATE TABLE dbo.envelope(id int, user_id int)
CREATE TABLE dbo.docs(idnum int, pageseq int, doctext varchar(100))

INSERT INTO dbo.envelope VALUES
  (1,1),
  (2,2),
  (3,3);

INSERT INTO dbo.docs(idnum,pageseq) VALUES
  (1,5),
  (2,6),
  (null,0);
```

What will the result be from the following query:

```
UPDATE docs SET doctext=pageseq FROM docs INNER JOIN
  envelope ON docs.idnum=envelope.id
WHERE EXISTS (
  SELECT 1 FROM dbo.docs
  WHERE id=envelope.id
);
```

Explain your answer.

[View the answer →](#)

What is wrong with this SQL query? Correct it so it executes properly.

```
SELECT Id, YEAR(BillingDate) AS BillingYear
FROM Invoices
WHERE BillingYear >= 2010;
```

[View the answer →](#)

Given these contents of the Customers table:

| Id | Name | ReferredBy |
|----|---------------|------------|
| 1 | John Doe | NULL |
| 2 | Jane Smith | NULL |
| 3 | Anne Jenkins | 2 |
| 4 | Eric Branford | NULL |
| 5 | Pat Richards | 1 |
| 6 | Alice Barnes | 2 |

Here is a query written to return the list of customers not referred by Jane Smith:

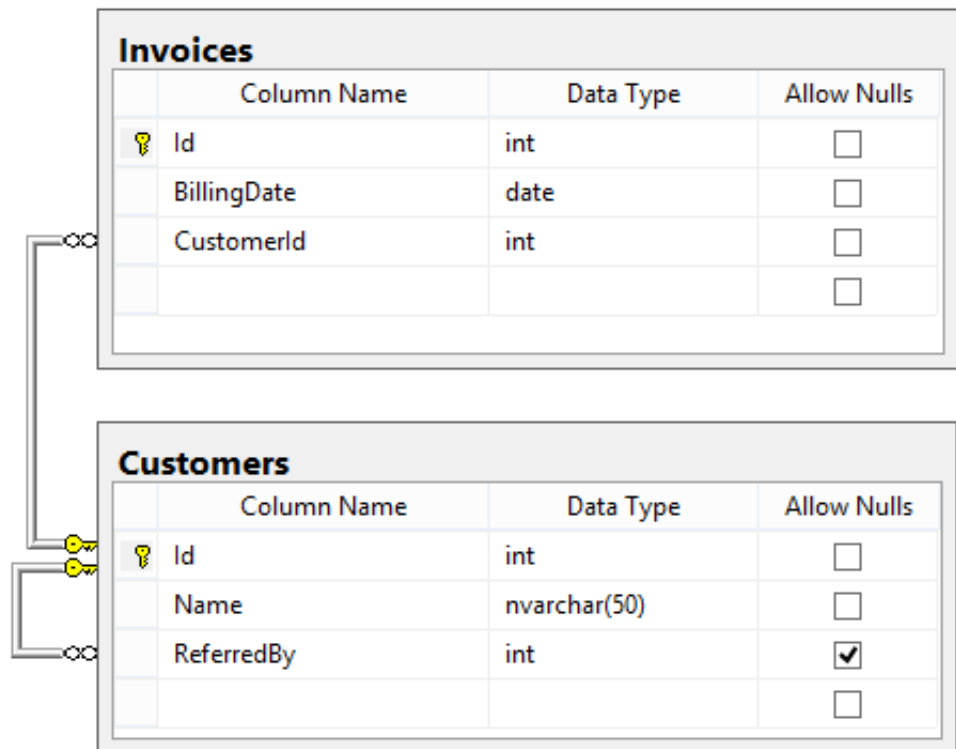
```
SELECT Name FROM Customers WHERE ReferredBy <
```

What will be the result of the query? Why? What would be a better way to write it?

[View the answer →](#)

Considering the database schema displayed in the SQLServer-style diagram below, write a SQL query to return a list of all the invoices. For each invoice, show the Invoice ID, the billing date, the

customer's name, and the name of the customer who referred that customer (if any). The list should be ordered by billing date.



[View the answer →](#)

Assume a schema of

```
Emp ( Id, Name, DeptId ) ,  
Dept ( Id, Name)
```

.

If there are 10 records in the
`Emp` table and 5 records in the

Dept table, how many rows will be displayed in the result of the following SQL query:

```
Select * From Emp, Dept
```

Explain your answer.

[View the answer →](#)

Given a table SALARIES, such as the one below, that has m = male and f = female values. Swap all f and m values (i.e., change all f values to m and vice versa) with a single update query and no intermediate temp table.

| Id | Name | Sex | Salary |
|----|------|-----|--------|
| 1 | A | m | 2500 |
| 2 | B | f | 1500 |
| 3 | C | m | 5500 |
| 4 | D | f | 500 |

[View the answer →](#)

Given two tables created as

follows

```
create table test_a(id numeric);

create table test_b(id numeric);

insert into test_a(id) values
  (10),
  (20),
  (30),
  (40),
  (50);

insert into test_b(id) values
  (10),
  (30),
  (50);
```

Write a query to fetch values in table `test_a` that are and not in `test_b` **without** using the **NOT** keyword.

[View the answer →](#)

Given a table `TBL` with a field `Nmbr` that has rows with the following values:

```
1, 0, 0, 1, 1, 1, 1, 0, 0, 1,
0, 1, 0, 1, 0, 1
```

Write a query to add 2 where

`Nmbr` is 0 and add 3 where
`Nmbr` is 1.

[View the answer →](#)

Write a SQL query to find the 10th highest employee salary from an `Employee` table. Explain your answer.

(Note: You may assume that there are at least 10 records in the `Employee` table.)

[View the answer →](#)

Write a SQL query using `UNION ALL` (**not** `UNION`) that uses the `WHERE` clause to eliminate duplicates. Why might you want to do this?

[View the answer →](#)

Given the following tables:

```
SELECT * FROM users;
```

| user_id | username |
|---------|-------------|
| 1 | John Doe |
| 2 | Jane Don |
| 3 | Alice Jones |
| 4 | Lisa Romero |

```
SELECT * FROM training_details;
```

| user_training_id | user_id | training_id | train |
|------------------|---------|-------------|-------|
| 1 | 1 | 1 | "2015 |
| 2 | 2 | 1 | "2015 |
| 3 | 3 | 2 | "2015 |
| 4 | 4 | 2 | "2015 |
| 5 | 2 | 2 | "2015 |
| 6 | 1 | 1 | "2015 |
| 7 | 3 | 2 | "2015 |
| 8 | 4 | 3 | "2015 |
| 9 | 1 | 4 | "2015 |
| 10 | 3 | 1 | "2015 |
| 11 | 4 | 2 | "2015 |
| 12 | 3 | 2 | "2015 |
| 13 | 1 | 1 | "2015 |
| 14 | 4 | 3 | "2015 |

Write a query to to get the list of users who took the a training lesson more than once in the same day, grouped by user and training lesson, each ordered from the most recent lesson date to oldest date.

[View the answer →](#)

What is an execution plan?
When would you use it? How
would you view the execution
plan?

[View the answer →](#)

What is a key difference
between Truncate and Delete?

[View the answer →](#)

* There is more to interviewing than tricky technical questions, so these are intended merely as a guide. Not every “A” candidate worth hiring will be able to answer them all, nor does answering them all guarantee an “A” candidate. At the end of the day, [hiring remains an art, a science — and a lot of work.](#)

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**Eric W.
Greene**
United
States

Eric loves to write code in a high-paced and challenging environment with an emphasis on using best practices to develop high quality software that meets project requirements, budget, and schedule. He enjoys learning new t...

SQL

VB.NET

PHP

C#

JavaScript



**Jake
Varghese**
United
States

As an architect, Jake understands the process of solving complex problems that plague enterprise and medium size businesses. He is a full-stack problem solver--he can build entire apps from scratch or he can optimize an existi...

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JavaScript

HTML5

Ruby



**Mike
Harris**
United
States

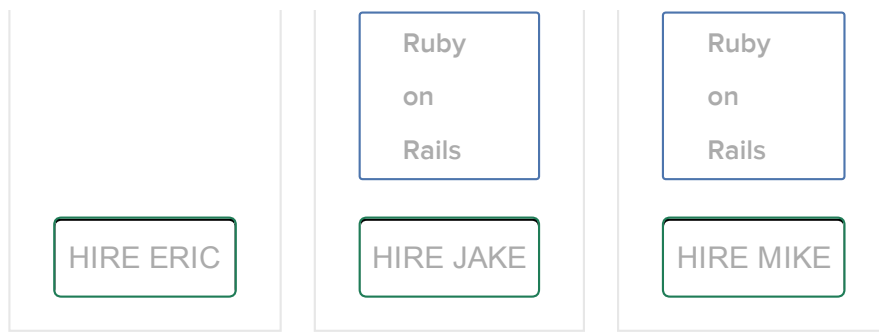
Mike is an experienced freelance Ruby developer who also has real world experience in JavaScript, C#, C++, Java, and SQL. He has more than 10 years of experience in a wide variety of environments, including IT consulting...

SQL

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