

# SQL

## Find customers with no sales

```
--EXCEPT  
SELECT CustomerID  
FROM Customers  
EXCEPT  
SELECT CustomerID  
FROM Sales;
```

1 Removes the results of the second SELECT from the results of the first.

```
--NOT EXISTS  
SELECT CustomerID  
FROM Customers c  
WHERE  
NOT EXISTS (  
    SELECT 1  
    FROM Sales s  
    WHERE c.CustomerID = s.CustomerID  
);
```

2 As soon as one match is found, the customer ID is excluded from the result.

```
--LEFT anti-JOIN  
SELECT c.CustomerID  
FROM Customers c  
LEFT JOIN Sales s  
    ON c.CustomerID = s.CustomerID  
WHERE s.CustomerID IS NULL;
```

3 JOIN is performed first, then the rows are excluded.