Select SQL Statements using the Northwind DB

SQL Syntax Overview

```
SELECT <fields>
FROM <TABLES>
WHERE <criteria>
ORDER BY <order>

INSERT <table> (<fields>)
VALUES (<data>)

UPDATE <table>
SET <field> = <data>
WHERE <criteria>

DELETE <table>
WHERE <criteria>
```

SQL Select

```
SELECT *
FROM customers

SELECT companyname, contactname, contacttitle
FROM customers
```

SQL Where

```
SELECT companyname, contactname, country
FROM customers
WHERE country = "Sweden"

SELECT productname, unitsinstock
FROM products
WHERE unitsinstock < 10
```

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SELECT order by

```
SELECT companyname, contactname, city, country
FROM customers
ORDER BY companyname DESC
```

```
SELECT companyname, contactname, city, country
FROM customers
ORDER BY country DESC, city
```

```
SELECT companyname, contactname, city, country
FROM customers
WHERE country in ('USA', 'Japan', 'Germany')
ORDER BY country DESC, city
```

SQL Select Limit

```
SELECT productid, productname, unitprice
FROM products
ORDER BY unitprice
LIMIT 5
```

SQL Select Distinct

```
SELECT DISTINCT country
FROM customers
ORDER BY country
```

SQL Min, Max

```
SELECT MIN(unitprice)
FROM products
```

```
SELECT *
FROM products
WHERE unitprice =
 (SELECT MAX(unitprice)
  FROM products)
```

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SQL Count, Sum, Avg

```
SELECT count(*)
FROM products

SELECT count(DISTINCT unitprice)
FROM products

SELECT quantityperunit, count(*)
FROM products
GROUP BY quantityperunit
```

SQL And, Or, Not

```
SELECT *
FROM employees
WHERE firstname = 'Anne' AND lastname = 'Dodsworth'

SELECT companyname, city, country
FROM customers
WHERE NOT country = 'USA'
```

SQL Between

```
SELECT productid, productname, unitprice
FROM products
WHERE unitprice between 10 and 20
```

SQL In

```
SELECT companyname, contactname, city, country
FROM suppliers
WHERE upper(country) in ('USA', 'CANADA', 'MEXICO')

SELECT companyname, contactname, city, country
FROM customers
WHERE country IN
    (SELECT country
     FROM suppliers)
```

SQL Like

```
// all products starting with C
SELECT productname
FROM products
WHERE productname LIKE 'C%'
```

SQL is Null

```
// no homepage
SELECT companyname, contactname, homepage
FROM suppliers
WHERE homepage is NULL

// has homepage
SELECT companyname, contactname, homepage
FROM suppliers
WHERE homepage is NOT NULL
```

SQL Having

```
// countries with 10 or more customers
SELECT count(customerid), country
FROM customers
GROUP BY country
HAVING count(customerid) > 10
```

SQL Alias

```
SELECT COUNT(c.customerid) as TotalCustomers, c.country as
Nation
FROM customers c
GROUP BY c.country
ORDER by TotalCustomers
```

SQL Join

```
// inner join - select records that match in BOTH tables
// includes those customers with orders and
// only those orders with customers

SELECT o.OrderDate, c.CompanyName, c.ContactName
FROM orders o JOIN customers c
on o.CustomerID = c.CustomerID

SELECT o.OrderDate, c.CompanyName, c.ContactName
FROM orders o, customers c
WHERE o.CustomerID = c.CustomerID
```

SQL Left Join

```
// Left (Outer) join - select all records from the left
// table getting the data from the right table where available.

// includes all customers and if available their order data

SELECT o.OrderDate, c.CompanyName, c.ContactName
FROM customers c LEFT JOIN orders o
ON o.CustomerID = c.CustomerID
ORDER BY o.OrderDate
```

SQL Right Join

```
// Right (Outer) join - select all records from the right table
// getting the data from the left table where available.
// Not implemented in SQLite
```

SQL Full Join

```
// Full Join - select all records from both tables joining the
// data as appropriate.
// Not implemented in SQLite
```

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SQL Self Join

```
// match customers from the same country and city

SELECT companyname, contactname, city, country
FROM customers a, customers b
WHERE a.CustomerID <> b.CustomerID
  AND a.City = b.City
  AND a.Country = b.Country
ORDER BY a.country, a.city
```

SQL Union

```
SELECT companyname, contactname, phone
FROM customers
UNION
SELECT 'Northwind', firstname + ' ' + lastname, homephone
FROM employees
ORDER BY companyname
```

SQL Subquery

```
SELECT companyname, contactname, city, country
FROM customers
WHERE country IN
    (SELECT country
     FROM suppliers)

SELECT contactname, phone,
       (SELECT COUNT(o.orderid)
        FROM orders o
        WHERE o.customerid = c.customerid) as ordercount
FROM customers c
ORDER BY ordercount
```

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SQL Exists

```
// list all suppliers who have products with less than 10 units
in stock

SELECT companyname
FROM suppliers
WHERE EXISTS
  (SELECT productname
   FROM products
   WHERE supplierid = suppliers.SupplierID
   AND unitsinstock < 10)
```

SQL Insert

```
INSERT INTO customers(customerid, companyname, contactname)
VALUES (9191, 'Lambda School', 'John Mitchell')

INSERT INTO customers(customerid, companyname, contactname)
SELECT 9192, companyname, contactname
FROM suppliers
WHERE companyname LIKE 'BIG%'
```

SQL Update

```
// discontinuing all products with unit price < 10.00

UPDATE products
SET discontinued = 1
WHERE unitprice < 10.00


UPDATE suppliers
SET City = 'Oslo', Phone = '(0)1-953530', Fax = '(0)1-953555'
WHERE supplierid = 15
```

SQL Delete

```
DELETE
FROM products
WHERE unitprice < 10.00

DELETE
FROM customers
WHERE customerid = 15
```