SQL

SQL SELECT Statement

- `SELECT * FROM table_name;`
- `SELECT column1, column2, ...`
  `FROM table_name;`
- `SELECT DISTINCT column1, column2, ...`
  `FROM table_name;`
- SQL WHERE Clause: It can be used with above statements for particular records
- `SELECT column1, column2, ...`
  `FROM table_name`
  `WHERE condition;`
- Ex: `SELECT * FROM Customers WHERE CustomerID=1;`

- SQL AND, OR and NOT Operators:
- `SELECT * FROM Customers WHERE Country='Germany' AND City='Berlin';`
- `SELECT * FROM Customers WHERE City='Berlin' OR City='München’;`
- `SELECT * FROM Customers WHERE NOT Country='Germany';`

SQL ORDER BY Keyword

- `SELECT * FROM Customers ORDER BY Country;`
- `SELECT * FROM Customers ORDER BY Country DESC;`
- `SELECT * FROM Customers ORDER BY Country ASC,`
- `INSERT INTO Customers (CustomerName, ContactName, Address, City, PostalCode, Country)`
  `VALUES ('Cardinal', 'Tom B. Erichsen', 'Skagen 21', 'Stavanger', '4006', 'Norway’);`

• SQL INSERT INTO Statement

- `INSERT INTO table_name (column1, column2, column3, ...)`
  `VALUES (value1, value2, value3, ...);`
- `INSERT INTO Customers (CustomerName, ContactName, Address, City, PostalCode, Country)`
  `VALUES ('Cardinal', 'Tom B. Erichsen', 'Skagen 21', 'Stavanger', '4006', 'Norway');`

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SQL UPDATE Statement

```
UPDATE table_name SET column1 = value1, column2 = value2, ... WHERE condition;
```

```
UPDATE Customers SET ContactName = 'Alfred Schmidt', City= 'Frankfurt
WHERE CustomerID = 1;
```

'

SQL DELETE Statement

```
DELETE FROM table_name WHERE condition;
```

```
DELETE FROM Customers WHERE CustomerName='Alfreds Futterkiste';
```

SQL MIN() and MAX() Functions

```
SELECT MAX(column_name) FROM table_name WHERE condition;
```

```
SELECT MIN(Price) AS SmallestPrice FROM Products;
```

SQL COUNT(), AVG() and SUM() Functions

```
SELECT COUNT(column_name) FROM table_name WHERE condition;
```

```
SELECT COUNT(ProductID) FROM Products;
```

```
SELECT SUM(Quantity) FROM OrderDetails;
```

```
SELECT AVG(Price) FROM Products;
```

SQL LIKE Operator

```
SELECT column1, column2, ... FROM table_name WHERE columnN LIKE pattern;
```

```
SELECT * FROM Customers WHERE CustomerName LIKE '%a’;
```

SQL Aliases

```
SELECT column_name AS alias_name FROM table_name;
```

```
SELECT column_name(s) FROM table_name AS alias_name;
```

SQL INNER JOIN

```
SELECT column_name(s) FROM table1 INNER JOIN table2
    ON table1.column_name = table2.column_name;
```

```
    SELECT Orders.OrderID, Customers.CustomerName FROM Orders
INNER JOIN Customers ON Orders.CustomerID = Customers.CustomerID;
```

SQL LEFT JOIN

```
SELECT column_name(s) FROM table1 LEFT JOIN table2
    ON table1.column_name = table2.column_name;
```

```
    SELECT Customers.CustomerName, Orders.OrderID
                FROM Customers
LEFT JOIN Orders ON Customers.CustomerID = Orders.CustomerID
    ORDER BY Customers.CustomerName;
```

SQL RIGHT JOIN

```
SELECT column_name(s) FROM table1 RIGHT JOIN table2
    ON table1.column_name = table2.column_name;
```

```
SELECT Orders.OrderID, Employees.LastName, Employees.FirstName FROM Orders
    RIGHT JOIN Employees ON Orders.EmployeeID = Employees.EmployeeID
                        ORDER BY Orders.OrderID;
```

FULL OUTER JOIN

```
SELECT column_name(s) FROM table1 FULL OUTER JOIN table2
ON table1.column_name = table2.column_name WHERE condition
```

```
SELECT Customers.CustomerName, Orders.OrderID FROM Customers
FULL OUTER JOIN Orders ON Customers.CustomerID=Orders.CustomerID
                    ORDER BY Customers.CustomerName;
```

;

SQL Self Join

```
SELECT column_name(s) FROM table1 T1, table1 T2 WHERE condition;
```

```
SELECT A.CustomerName AS CustomerName1, B.CustomerName AS CustomerName2, A.City
FROM Customers A, Customers B
WHERE A.CustomerID <> B.CustomerID AND A.City = B.City ORDER BY A.City;
```

SQL UNION

```
SELECT column_name(s) FROM table1 UNION SELECT column_name(s) FROM table2;
```

```
SELECT City FROM Customers UNION SELECT City FROM Suppliers ORDER BY City;
```

```
SELECT City, Country FROM Customers WHERE Country='Germany' UNION
SELECT City, Country FROM Suppliers WHERE Country='Germany' ORDER BY City;
```

SQL GROUP BY Statement

- `SELECT column_name(s) FROM table_name WHERE condition GROUP BY column_name(s) ORDER BY column_name(s);`
- `SELECT COUNT(CustomerID), Country FROM Customers GROUP BY Country;`
- `SELECT COUNT(CustomerID), Country FROM Customers GROUP BY Country ORDER BY COUNT(CustomerID) DESC;`

SQL HAVING Clause

```
SELECT column_name(s) FROM table_name WHERE condition GROUP BY column_name(s)
HAVING condition ORDER BY column_name(s);

SELECT COUNT(CustomerID), Country FROM Customers GROUP BY Country
HAVING COUNT(CustomerID) > 5;
```

SQL EXISTS Operator

```
SELECT SupplierName FROM Suppliers
WHERE EXISTS (SELECT ProductName FROM Products WHERE Products.SupplierID =
Suppliers.supplierID AND Price < 20);
```

SQL CASE Expression

```
CASE WHEN condition1 THEN result1 WHEN condition2 THEN result2
WHEN conditionN THEN result ELSE result END;
```

```
SELECT CustomerName, City, Country FROM Customers ORDER BY(CASE ELSE City END);
```

END