- **SQL Statements:**

  There are various SQL statements which is used for different Purposes.Following are different types of SQL Statements:

  1.DDL - Data Definition Language:

Command	Description
CREATE	Creates a new table, a view of a table, or other object in database
ALTER	Modifies an existing database object, such as a table.
DROP	Deletes an entire table, a view of a table or other object in the database.

  2.DML - Data Manipulation Language:

Command	Description
INSERT	Creates a record
UPDATE	Modifies records
DELETE	Deletes records

  3.DCL - Data Control Language:

Command	Description

GRANT	Gives a privilege to user
REVOKE	Takes back privileges granted from user

4.DQL - Data Query Language:

Command	Description
SELECT	Retrieves certain records from one or more tables

- **SQL Select Statement/Starting with Select Statement in SQL:**

Select statement in SQL is used to fetch the records from the table.To select the data from the database table SQL select statements are used.The actual result is stored in to Result table which is called as resultset which is stored in cache not in the main memory.We can fetch the records from the table by using types:

Select Syntax by using '*':

Select * from Table_name;

Select Syntax by using column names:

Select column_name1,column_name2 from table_name;

As considering the performance matrices the column name syntax is better than select * syntax.

Real Life Scenarios for SQL Select Statement:

Select statement is most common and very widely used sql statement.So there should be millions of scenarios of Select statement.I am explaining the basic scenarios of select statement.

Consider following table named 'Employee':

Employee_num	Employee_name	Department ID	Salary
1	Amit	100	680000
2	Rohan	100	550000
3	Rohit	101	430000

1.Scenario 1:

List the all information about Employee?

Query used:

*Select * from Employee;*

Select Employee_num,Employee_name,Department_ID,Salary from Employee;

The above 2 statement fetches all records of Employee.

2.Scenario 2:

Select the Employees whos salary is greater than 500000?

Query used:

Select * from Employee where salary > 500000;

Select Employee_num,Employee_name,Department_ID,Salary from Employee where salary>500000;

Output:

Employee_num	Employee_name	Department ID	Salary
1	Amit	100	680000
2	Rohan	100	550000

3.Scenario 3:

Fetch the departmentwise total salary.

Query:

Select Department ID,Sum(Salary) from Employee group by Department_ID;

Output:

Department ID	Salary
100	1230000
101	430000

4.Scenario 4:

Select Departmentwise sum of salary where department_id is 100;

Query:

Select Department ID,Sum(Salary) from Employee group by Department_ID

having department_id=100;

Output:

Department ID	Salary
100	1230000

- **Step-by-step Execution of Select Statement:**

  Here we are taking following query for internal execution explaination:

  Select Department ID,Sum(Salary) from Employee group by Department_ID

  having department_id=100;

  Step 1: **From Clause Execution:**

  In Every select statement first step is execution of the statements in from clause.In above statement there is only one table so it directly takes the table.So in above statement first step optimizer or compiler points to table name Employee.

  Step 2:**Where Clause:**

  The second step is where clause.When there is no where clause in Select statement optimizer directly fetches all the results from specified table.Where clause filters the data in database.In above query there is no where condition so Optimizer directly takes all the records from the table.
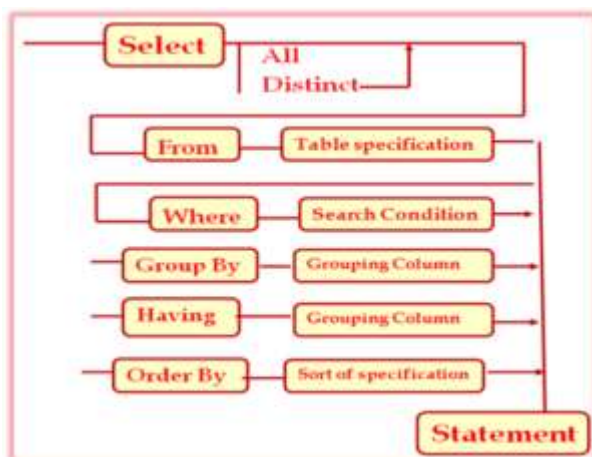
  Step 3:**Group By clause**

The Step 3 is Group by clause.If the query contains group by clause then the specified result of Query is partitioned in to different groups.One group is every combination of values given in to group by clause.In above query we are doing grouping the department id wise.

Step4:**Having Clause**

If your Query contains having clause then it will executes after the group by clase.After grouping if user wants to filter the records then having conditios comes in picture.In our query we are taking sum of records having department id=100.

Step 5:**Aggregate functions and select columns:**

After fetching all the records and executing the clauses the columns which are taken in select statement gets executed.The funnctions like max,min,count,sum is executed first and then all columns taken in select statement gets executed last.

Hope everyone gets idea about select statement and execution of select statement.Please comment below if you have any queries or if you like article.