

Lab-4

CSE302

Database Systems **Sec :05**

Submitted To:

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SQL Functions

SQL aggregate function performs calculation on multiple values and returns a single value.

SQL Average () Function:

The AVG () function is used for averaging value of a numeric column.

We have the following "Student" table:

last_name	first_name	id	major	Marks
Rahman	Nadia	12	Biology	76
Islam	Sadia	15	English	66
Islam	Samia	18	Biology	78
Nilhaat	Fiana	203	English	81
Hossain	Zaima	210	English	88

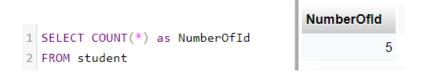
To average the number:





SQL COUNT () Function:

The COUNT () function is an aggregate function that returns number of rows in a table.

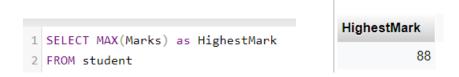


SQL COUNT (DISTINCT column_name):

```
1 SELECT COUNT(DISTINCT major) as NumberOfMajor
2 FROM student
3
```

SQL MAX () Function:

This function returns the largest value of the selected column.



SQL MIN () Function:

This function returns the smallest value of the selected column.

```
1 SELECT MIN(Marks) as lowestMark
2 FROM student

lowestMark
66
```

The SUM () Function:

This function returns the total sum of a numeric column.



SQL GROUP BY STATEMENT:

The GROUP BY statement in SQL is used for arranging identical data intogroups with the help of some functions.



SQL HAVING Clause:

The HAVING Clause is used with GROUP clause and returns the rows where condition is true.

1	SELECT major, SUM(Marks)	
2	FROM student	
3	GROUP BY major	
4	HAVING SUM(Marks)>85	

major	SUM(Marks)
Biology	154
English	235

Conclusion:

SQL function provides many aggregate functions that include avg, count, sum, max, min. An aggregate function ignores null values while performing calculation expect for the count function. The group by clause is often used with aggregate function to show one value per group shift to collect multiple type of information. And the having clause is used because the where key word cannot be used with aggregate functions. This function represents an easy way to significantly improve applications performance.