AGGREGRATE FUNCTIONS

Calculations performed on multiple rows of a table are called **aggregates**.

Here is some important aggregates that we will cover in the lecture.

COUNT(): count the number of rows

SUM(): the sum of the values in a column

MAX()/**MIN**(): the largest/smallest value

AVG(): the average of the values in a column

COUNT()

The fastest way to calculate how many rows are in a table is to use the COUNT() function.

```
SELECT COUNT(*)
FROM table_name;
```

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

SUM()

SUM() is a function that takes the name of a column as an argument
and returns the sum of all the values in that column

```
SELECT SUM(column_name)
       FROM table_name;
```

MAX() / MIN()

The MAX() and MIN() functions return the highest and lowest values in a column

```
SELECT MAX(column_name)
FROM table_name;

SELECT MIN(column_name)
FROM table_name;
```

AVG()

The AVG() function calculates the average value of the column

```
SELECT AVG(column_name)
FROM table_name;
```

GROUP BY

we might want to know the no of subscriptions
year(2019,2020)

We could do this by series of statements with where condition, like this

```
select count(*) from hotstar where year = 2019
select count(*) from hotstar where year = 2020
```

But, we want to display the no of downloads for both year in one query statement, for such case we use GROUP BY , like below statement

```
select year, count(*) from hotstar
group by year
```

GROUP BY

GROUP BY is a clause in SQL that is used with aggregate functions.

It is used in collaboration with the SELECT statement to arrange identical data into *groups*.

The GROUP BY statement comes after WHERE statements,
but before ORDER BY

```
select year, count(*) from hotstar
where condition
group by year
Order by year
```

HAVING

In addition to being able to group data using GROUP BY, SQL also allows you to filter groups to include and which to exclude.

```
select year, count(*)
from movies
group by year,
having count(*) > 100
order by year
```

HAVING statement always comes after GROUP BY, but before ORDER BY