**SQL Multi Row Function**

**Aggregate Functions**

## Part 1 – Basic Usage

1. Display the lowest last name alphabetically (Customers table).

**select min(last\_name) from customers;**

1. Display the average monthly payment (Packages table).

**SELECT avg(monthly\_payment) FROM packages;**

1. Display the highest last name alphabetically (Customers table).

**select max(last\_name) from customers;**

1. Display the number of internet packages (Packages table).

**select count(pack\_id) from packages;**

1. Display the number of records in Customers table.

**select count(\*) from customers;**

1. Display the number of distinct states (Customers table).

**select distinct state from customers;**

1. Display the number of distinct internet speeds (Packages table).

**select count(distinct speed) from packages;**

1. Display the number of values (exclude Nulls) in Fax column (Customers table).

**select count(FAX) from customers;**

1. Display the number of Null values in Fax column (Customers table).

**select count(\*) from customers where fax is null;**

1. Display the highest, lowest and average monthly discount (Customers table).

**select max(monthly\_discount),min(monthly\_discount),round(avg(monthly\_discount),2) from customers;**

## Part 2 – GROUP BY and HAVING clauses

1. Display the state and the number of customers for each state (Customers table).

**select state,count(customer\_id) from customers group by state;**

1. Display the internet speed and the average monthly payment for each speed (Packages table).

**select speed,avg(monthly\_payment) from packages group by speed;**

1. Display the state and the number of distinct cities for each state (Customers table).
2. Display the sector number and the highest monthly payment for each sector (Packages table).
3. Package number and average monthly discount (Customers table) –
   1. Display the package number and the average monthly discount for each package.
   2. Display the package number and the average monthly discount for each package, only for packages whose number equals 22 or 13.
4. Display the highest, lowest and average monthly payment for each internet speed (Packages table).
5. The number of customer in each internet package (Customers table) –
   1. Display the package number and the number of customers for each package number.
   2. Modify the query to display the package number and number of customers for each package number, only for the customers whose monthly discount is greater than 20.
   3. Modify the query to display the package number and number of customers for each package number, only for the packages with more than 100 customers.
6. Display the state, city and number of customers for each state and city.
7. Cities and the average monthly discount (Customers table) –
   1. Display the city and the average monthly discount for each city
   2. Display the city and the average monthly discount for each city, only for the customers whose monthly discount is greater than 20
8. States and the lowest monthly discount (Customers table) –
   1. Display the state and the lowest monthly discount for each state.
   2. Display the state and lowest monthly discount for each state, only for states where the lowest monthly discount is greater than 10
9. Display the internet speed and number of package for each internet speed, only for the internet speeds with more than 8 packages.