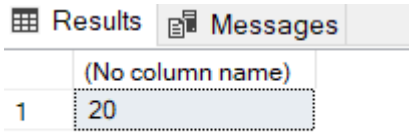
Basic SQL Queries

(1) Counting rows, select and distinct functions:

Count Function: Query the information to see how many LastNames are there:

```
SELECT COUNT(Lastname)
FROM EmployeeDemographics;
```

Result:



There is a total of 20 Lastnames in this dataset

Select Function: This function extracts data from the enter database

```
SELECT *
FROM EmployeeDemographics;
```

Result:

Results Messages

	EmployeeID	FirstName	Lastname	Age	Gender
1	101	Gary	Jimenez	41	Male
2	102	Albert	Pardini	23	Male
3	103	David	Sullivan	34	Male
4	104	Patricia	Jackson	32	Female
5	105	Amy	Hart	21	Female
6	106	Sebastian	Wong	37	Male
7	107	Marty	Ross	32	Male
8	108	Ellen	Moffatt	35	Female
9	109	George	Garcia	31	Male
10	110	Judy	Melinek	30	Female
11	111	Gregory	Suhr	31	Male
12	112	Raymond	Guzman	29	Male
13	113	Monica	Fields	27	Female
14	114	Sharon	Mccole	28	Female
15	115	Barbara	Garcia	31	Female
16	116	Anna	Brown	30	Female
17	117	Monique	Moyer	38	Female
18	118	Mark	Gamble	36	Male
19	119	Kevin	Burke	39	Male
20	120	Luke	Tse	40	Male

Sometimes, the dataset might be large and instead of querying the entire dataset you want to query a few lines to view what is in the table. In such scenarios we can use the LIMIT function:

```
SELECT TOP 3 *
FROM EmployeeDemographics
```

This will display the first 3 rows of the table:

Results Messages

	EmployeeID	FirstName	Lastname	Age	Gender
1	101	Gary	Jimenez	41	Male
2	102	Albert	Pardini	23	Male
3	103	David	Sullivan	34	Male

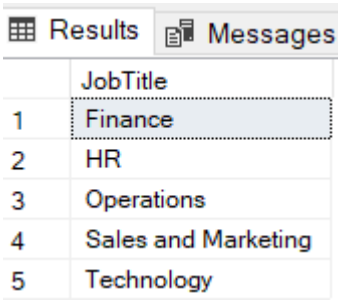
Distinct Function: A lot of times, our data table is filled with duplicate values. To attain the unique value, we use the DISTINCT function. This function will be

especially helpful when working with large datasets.

In our dataset, how can we find the unique job titles of the employees?

```
SELECT DISTINCT(JobTitle)
FROM EmployeeSalary
```

There are a total of 5 different titles:



Results | Messages

	JobTitle
1	Finance
2	HR
3	Operations
4	Sales and Marketing
5	Technology

(2) Aggregation functions:

Aggregation functions are the base of any kind of data analysis. They provide us with an overview of the dataset. Some of the functions are – GROUP BY, MIN , MAX, SUM & AVG

GROUP BY:

```
SELECT FirstName, Age
FROM EmployeeDemographics
GROUP BY FirstName, Age
```

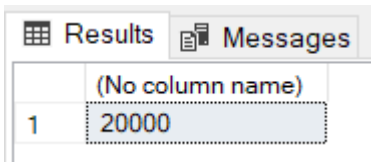
Result:

	FirstName	Age
1	Albert	23
2	Amy	21
3	Anna	30
4	Barbara	31
5	David	34
6	Ellen	35
7	Gary	41
8	George	31
9	Gregory	31
10	Judy	30
11	Kevin	39
12	Luke	40
13	Mark	36
14	Marty	32
15	Monica	27
16	Monique	38
17	Patricia	32
18	Raymond	29
19	Sebastian	37
20	Sharon	28

MIN:

```
SELECT MIN(Salary)
FROM EmployeeSalary
```

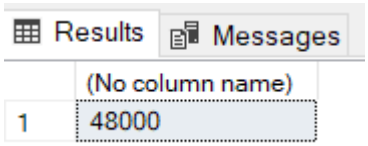
Result:



MAX:

```
SELECT MAX(Salary)
FROM EmployeeSalary
```

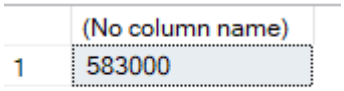
Result:



SUM:

```
SELECT SUM(Salary)
FROM EmployeeSalary
```

Result:



AVG:

```
SELECT AVG(Salary)
FROM EmployeeSalary
```

Result: