Problem Statement 1:

1. Data Transformation Challenge

Objective:

• Enhance data transformation skills using advanced techniques.

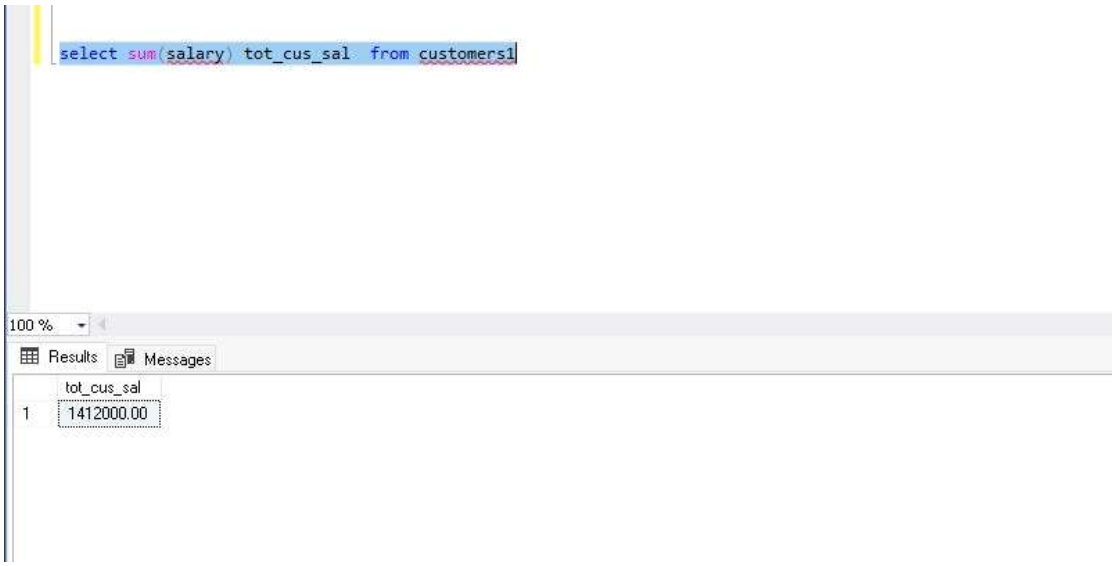
• Master functions like SUM, MAX, MIN, data conversion, and derived columns.

Task:

1. Continue with the sample dataset from Assignment 1.

2. Deepen your understanding of data transformation with these techniques:

1.Aggregate Functions: Utilize SUM to calculate total sales, MAX to find the highest product price, or MIN to identify the lowest customer order value.



```
select max(PurchaseTotal) max_totalpurchase from customers1
```

100 %

Results | Messages

	max_totalpurchase
1	3000.50

```
select min(PurchaseTotal) min_totalpurchase from customers1
```

100 %

Results | Messages

	min_totalpurchase
1	1500.50

2.Data Conversion: Convert data types (e.g., VARCHAR to INT) if necessary for calculations.

```
alter table customers1 alter column  salary int
SELECT COLUMN_NAME, DATA_TYPE FROM INFORMATION_SCHEMA.COLUMNS
WHERE TABLE_NAME = 'Customers1' AND COLUMN_NAME = 'Salary';
```

100 %

Results | Messages

	COLUMN_NAME	DATA_TYPE
1	Salary	int

3. Derived Columns: Create new columns based on existing data (e.g., calculate profit margin based on sale price and cost).

```
select firstname +' ' + lastname fullname from customers1
```

100 %

Results | Messages

	fullname
1	John Doe
2	Jane Smith
3	Michael Johnson
4	Emily Williams
5	David Brown
6	Linda Jones
7	Robert Garcia
8	Susan Martinez
9	James Rodriguez
10	Patricia Martinez

4. Conditional Split: Split a single column into multiple columns based on specific criteria (e.g., separate a "full name" column into "first name" and "last name").

```
select substring(firstname,1,3) + ' ' + substring(lastname,1,2) as splitted from customers1
```

100 %

Results | Messages

	splitted
1	Joh Do
2	Jan Sm
3	Mic Jo
4	Emi Wi
5	Dav Br
6	Lin Jo
7	Rob Ga
8	Sus Ma
9	Jam Ro
10	Pat Ma