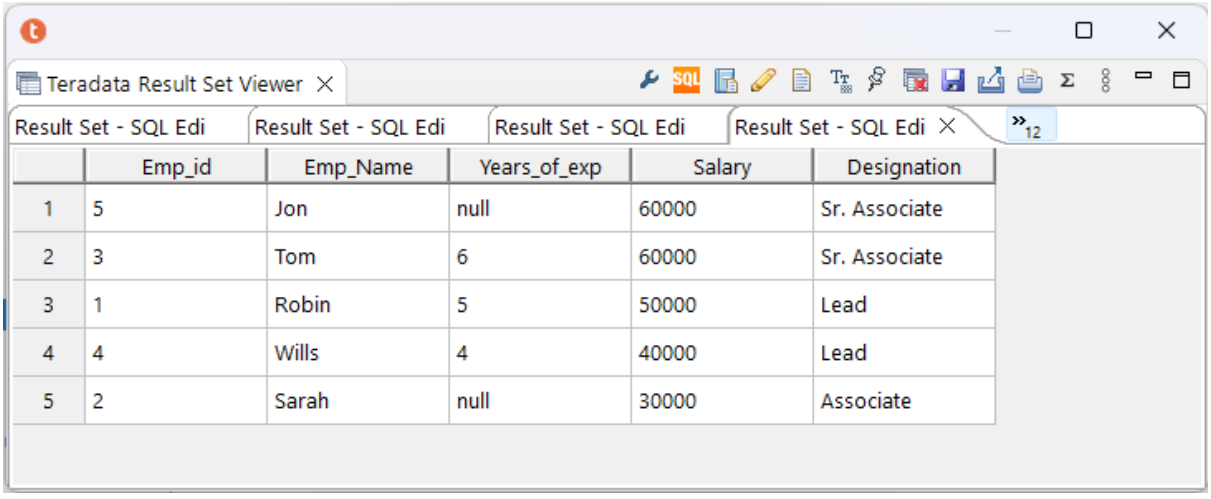
TERADATA CASE STUDY-2

Name: SANTANU ADHIKARY
Employee ID : 2320846
Cohort Code : CSDAIA24DB002

Create database, table and insert values to it.

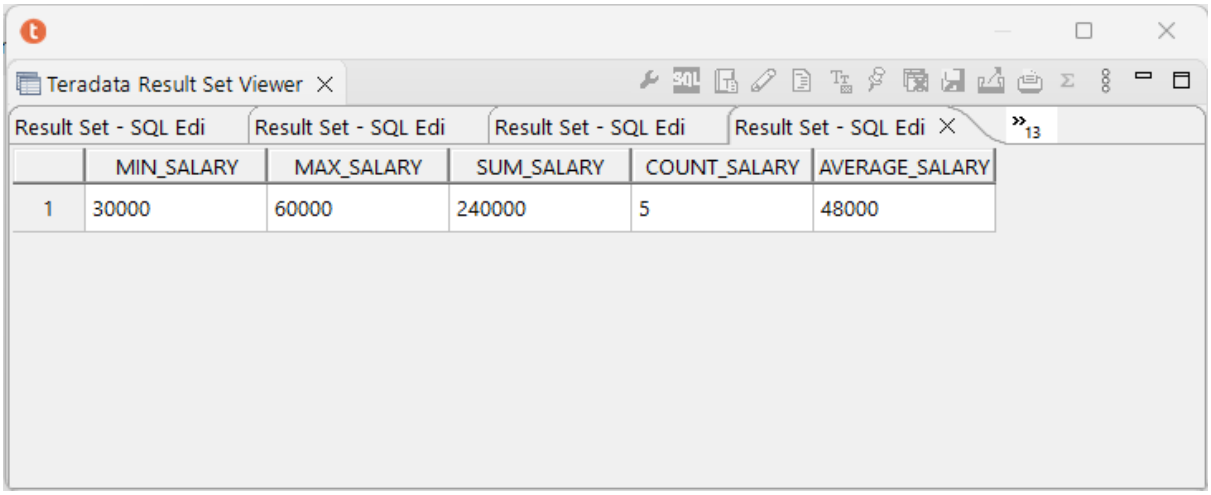
```
select database ;
database employee ;

CREATE TABLE TableName_2320846
, FALLBACK
, NO AFTER JOURNAL
, NO BEFORE JOURNAL
(
    Emp_id integer not null primary key ,
    Emp_Name varchar(50) title 'Name' not null ,
    Years_of_exp integer  ,
    Salary integer ,
    Designation varchar(50)
) unique primary index (Emp_id) ;

select * from TableName_2320846 ;


Insert into TableName_2320846 values(1,'Robin',5,50000,'Lead');
Insert into TableName_2320846 values(2,'Sarah',NULL,30000,'Associate');
Insert into TableName_2320846 values(3,'Tom',6,60000,'Sr. Associate');
Insert into TableName_2320846 values(4,'Wills',4,40000,'Lead');
Insert into TableName_2320846 values(5,'Jon',NULL,60000,'Sr. Associate');
```



	Emp_id	Emp_Name	Years_of_exp	Salary	Designation
1	5	Jon	null	60000	Sr. Associate
2	3	Tom	6	60000	Sr. Associate
3	1	Robin	5	50000	Lead
4	4	Wills	4	40000	Lead
5	2	Sarah	null	30000	Associate

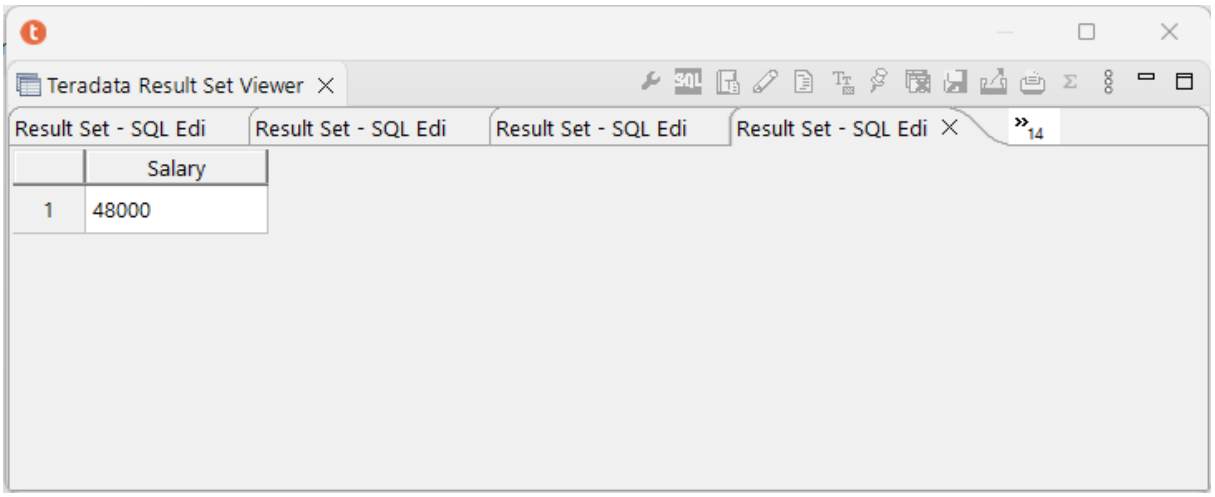
QUESTION 1

```
-- a)   Given the table above, perform all the possible Aggregate Functions based
--on the salary (Min, Max, Sum, Count, Average etc.).
    select Min(salary) AS MIN_SALARY ,
    Max(salary) AS MAX_SALARY  ,
    Sum(salary) AS SUM_SALARY ,
    count(salary) AS COUNT_SALARY ,
    Avg(salary)  AS AVERAGE_SALARY
    from TableName_2320846 ;
```



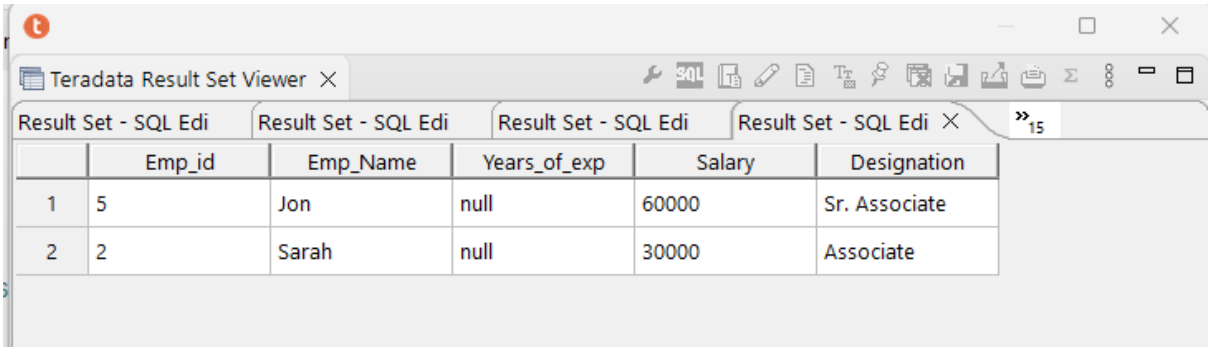
QUESTION 2

```
-- b)   Calculate the average of salary without using Avg() Function.

  SELECT SUM(SALARY)/COUNT(SALARY) from TableName_2320846 ;
```



QUESTION 3

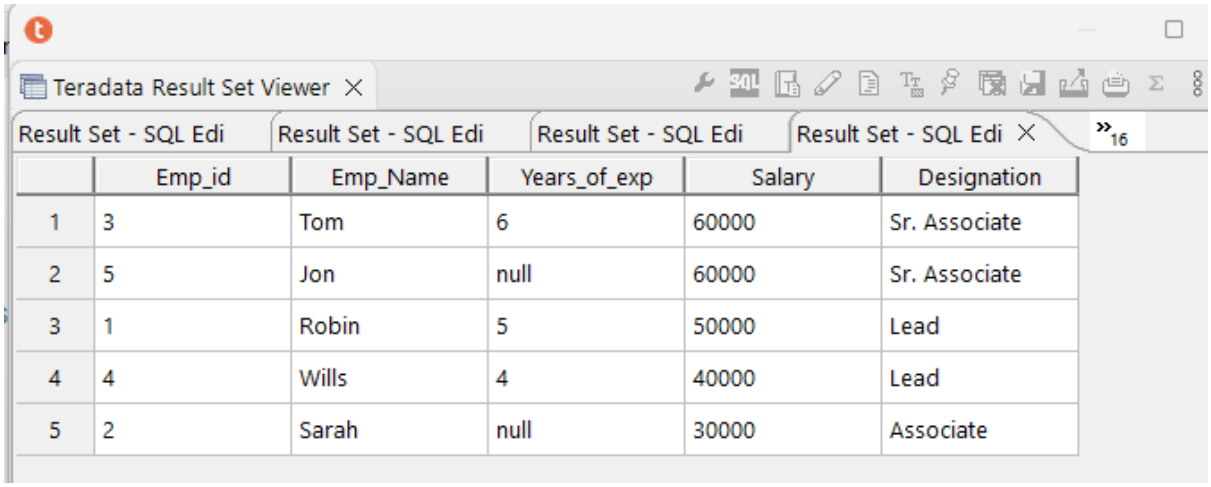
```
- c)   Select the employees with the years of experience NULL (Do not using any operator, such as '=', EQ).

   SELECT * from TableName_2320846 WHERE Years_of_exp IS NULL;
```



	Emp_id	Emp_Name	Years_of_exp	Salary	Designation
1	5	Jon	null	60000	Sr. Associate
2	2	Sarah	null	30000	Associate

QUESTION 4

```
- d)   Sort the employee record based on the salary (highest to lowest).

   SELECT * from TableName_2320846 ORDER BY SALARY DESC ;
```



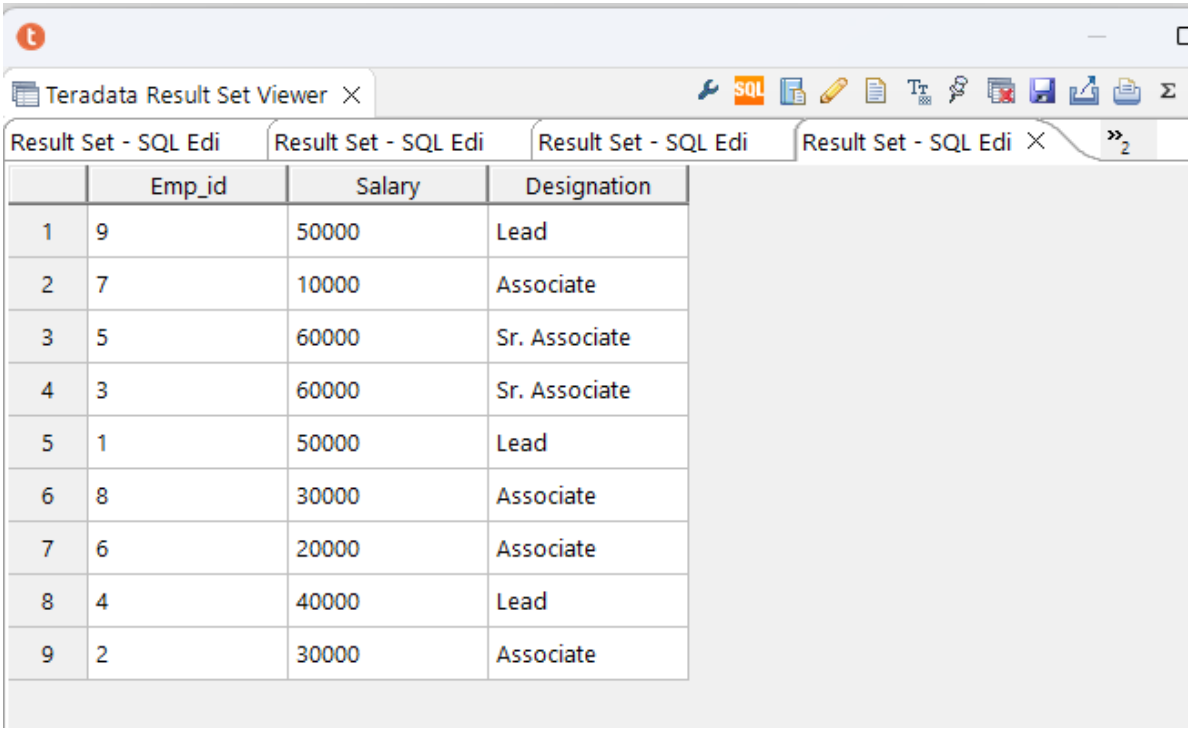
	Emp_id	Emp_Name	Years_of_exp	Salary	Designation
1	3	Tom	6	60000	Sr. Associate
2	5	Jon	null	60000	Sr. Associate
3	1	Robin	5	50000	Lead
4	4	Wills	4	40000	Lead
5	2	Sarah	null	30000	Associate

TERADATA CASE STUDY-3

Name: SANTANU ADHIKARY
Employee ID : 2320846
Cohort Code : CSDAIA24DB002

Create database, table and insert values to it.

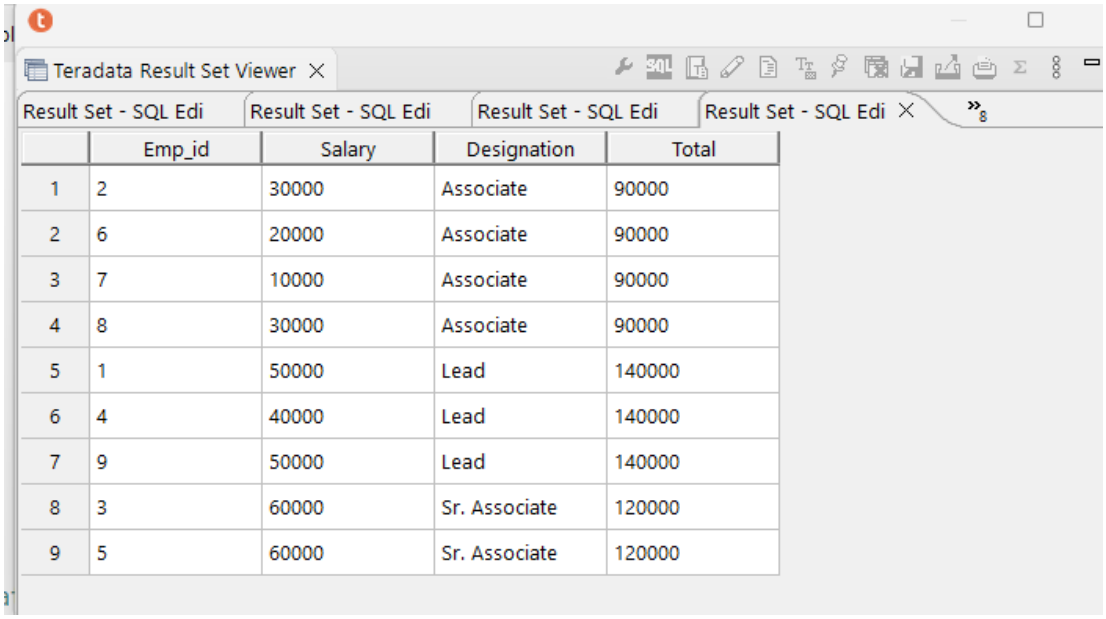
```
select database ;
drop table TableName_2320846 ;
CREATE TABLE TableName_2320846
        ,FALLBACK
        ,NO BEFORE JOURNAL
        ,NO AFTER JOURNAL
        (
                Emp_id integer not null primary key ,
                Salary Integer,
                Designation varchar(50)
        )
        UNIQUE PRIMARY INDEX( Emp_id );

select * from tablename_2320846 ;


Insert Into TableName_2320846 values(1,50000,'Lead') ;
Insert Into TableName_2320846 values(2,30000,'Associate') ;
Insert Into TableName_2320846 values(3,60000,'Sr. Associate') ;
Insert Into TableName_2320846 values(4,40000,'Lead') ;
Insert Into TableName_2320846 values(5,60000,'Sr. Associate') ;
Insert Into TableName_2320846 values(6,20000,'Associate') ;
Insert Into TableName_2320846 values(7,10000,'Associate') ;
Insert Into TableName_2320846 values(8,30000,'Associate') ;
Insert Into TableName_2320846 values(9  ,50000,'Lead ' ) ;
```



	Emp_id	Salary	Designation
1	9	50000	Lead
2	7	10000	Associate
3	5	60000	Sr. Associate
4	3	60000	Sr. Associate
5	1	50000	Lead
6	8	30000	Associate
7	6	20000	Associate
8	4	40000	Lead
9	2	30000	Associate

Question 1 :

```
--a)    Create a column named 'Total' and populate the total amount of salary for each designation.

    select t.*  , sum(salary)
    over(partition by designation order by emp_id
    rows between unbounded preceding and unbounded following )
    as Total
    from tablename_2320846 t ;
```



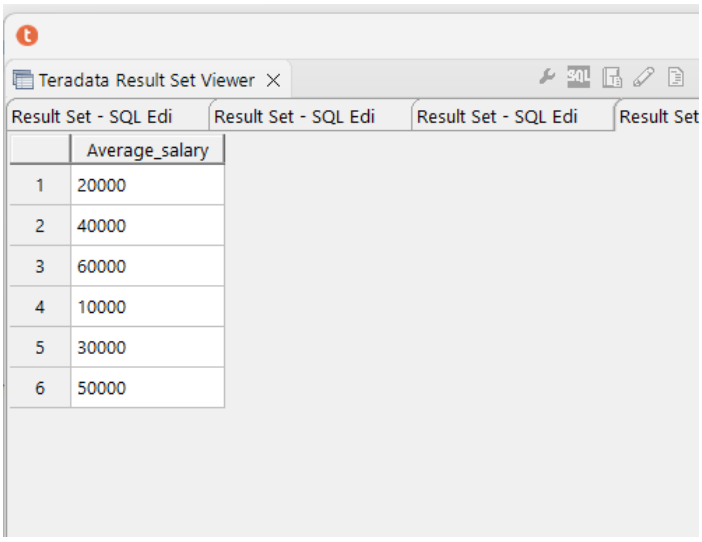
Teradata Result Set Viewer

Result Set - SQL Edi | Result Set - SQL Edi | Result Set - SQL Edi | Result Set - SQL Edi

	Emp_id	Salary	Designation	Total
1	2	30000	Associate	90000
2	6	20000	Associate	90000
3	7	10000	Associate	90000
4	8	30000	Associate	90000
5	1	50000	Lead	140000
6	4	40000	Lead	140000
7	9	50000	Lead	140000
8	3	60000	Sr. Associate	120000
9	5	60000	Sr. Associate	120000

Question 2:

```
--b)    Find the average amount of salary for each designation with and without using Avg() Function.

    select sum(salary)/count(salary) as Average_salary from TableName_2320846 group by salary  ;
```



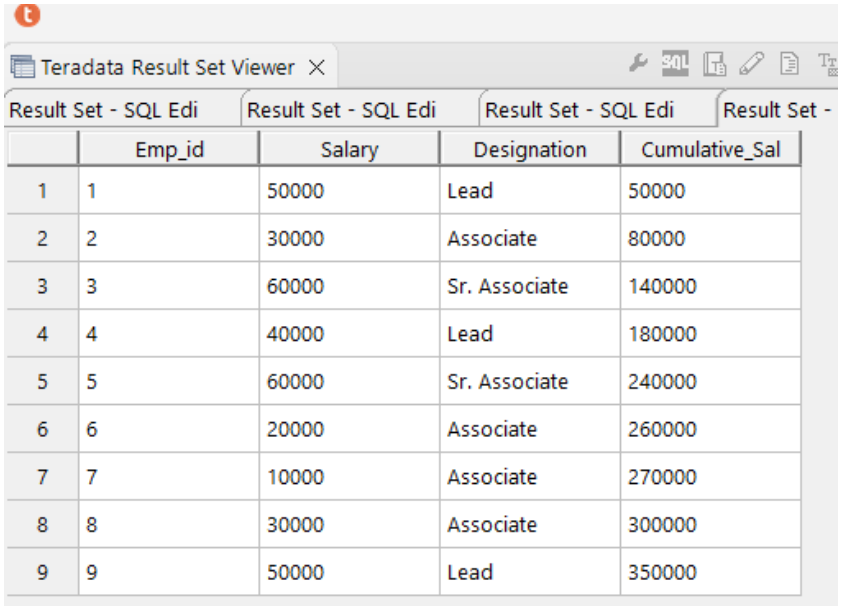
Teradata Result Set Viewer

Result Set - SQL Edi | Result Set - SQL Edi | Result Set - SQL Edi | Result Set

	Average_salary
1	20000
2	40000
3	60000
4	10000
5	30000
6	50000

Question 3:

```
--c)    Create a new column named 'Cumulative_Sal'
--      and populate the cumulating sum of salary based on the order of employee ID.

        select
        Emp_id,
        Salary ,
        sum(salary)
        over(order by emp_id
        rows between unbounded preceding and current row)
        as Cumulative_Sal ,
        designation
        from tablename_2320846 t ;
```



Teradata Result Set Viewer

Result Set - SQL Edi | Result Set - SQL Edi | Result Set - SQL Edi | Result Set -

	Emp_id	Salary	Designation	Cumulative_Sal
1	1	50000	Lead	50000
2	2	30000	Associate	80000
3	3	60000	Sr. Associate	140000
4	4	40000	Lead	180000
5	5	60000	Sr. Associate	240000
6	6	20000	Associate	260000
7	7	10000	Associate	270000
8	8	30000	Associate	300000
9	9	50000	Lead	350000

TERADATA CASE STUDY- 4

Name: SANTANU ADHIKARY
Employee ID : 2320846
Cohort Code : CSDAIA24DB002

Create database, table and insert values to it.

```
select database ;
drop table TableName_2320846 ;
CREATE TABLE TableName_2320846
        ,FALLBACK
        ,NO BEFORE JOURNAL
        ,NO AFTER JOURNAL
        (
                Emp_id integer not null primary key ,
                Salary Integer,
                Designation varchar(50)
        )
        UNIQUE PRIMARY INDEX( Emp_id );

select * from tablename_2320846 order by emp_id ;


Insert Into TableName_2320846 values(1,50000,'Lead') ;
Insert Into TableName_2320846 values(2,30000,'Associate') ;
Insert Into TableName_2320846 values(3,60000,'Sr. Associate') ;
Insert Into TableName_2320846 values(4,40000,'Lead') ;
Insert Into TableName_2320846 values(5,60000,'Sr. Associate') ;
Insert Into TableName_2320846 values(6,20000,'Associate') ;
Insert Into TableName_2320846 values(7,10000,'Associate') ;
Insert Into TableName_2320846 values(8,30000,'Associate') ;
Insert Into TableName_2320846 values(9  ,50000,'Lead ' ) ;
```

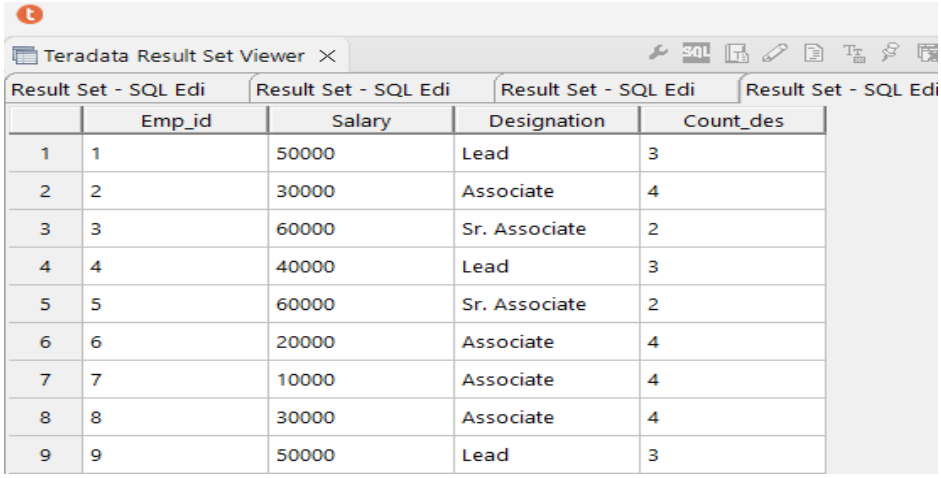
Teradata Result Set Viewer

Result Set - SQL Edi | Result Set - SQL Edi | Result Set - SQL Edi | Re

	Emp_id	Salary	Designation
1	1	50000	Lead
2	2	30000	Associate
3	3	60000	Sr. Associate
4	4	40000	Lead
5	5	60000	Sr. Associate
6	6	20000	Associate
7	7	10000	Associate
8	8	30000	Associate
9	9	50000	Lead

Question 1 :

```
--a)    Create a column named 'Count_des', and populate the total number of designation
--      with the names of designation for the above table.

        select t.* ,
        count(*)
        over(partition by designation
        rows between unbounded preceding and unbounded following
        ) as Count_des
        from tablename_2320846 t
        order by Emp_id;
```



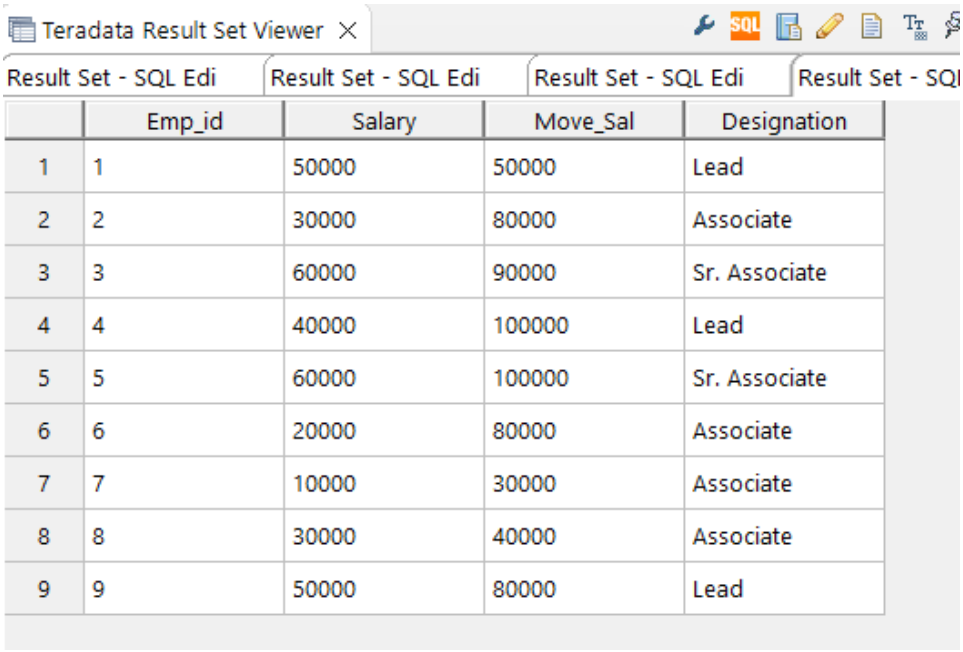
Teradata Result Set Viewer

Result Set - SQL Edi | Result Set - SQL Edi | Result Set - SQL Edi | Result Set - SQL Edi

	Emp_id	Salary	Designation	Count_des
1	1	50000	Lead	3
2	2	30000	Associate	4
3	3	60000	Sr. Associate	2
4	4	40000	Lead	3
5	5	60000	Sr. Associate	2
6	6	20000	Associate	4
7	7	10000	Associate	4
8	8	30000	Associate	4
9	9	50000	Lead	3

Question 2 :

```
--b)    Create a new column named 'Move_Sal', and populate the moving sum of salary
--      for 2 employees based on the order of Employee ID.
--      For example: Refer below, Sum of salary for Empid 1 and 2 is populated in Move_sal.
    --• Sal(empid1)+Sal(empid2) = Move_Sal(emp_id2)
    --• Sal(empid2) + Sal(empid3) = Move_Sal(empid3)


        select
            Emp_id ,
            salary,
            sum(salary)
                over(order by emp_id
                rows between 1 preceding and current row
                ) as Move_Sal ,
            designation
        from tablename_2320846 t ;
```



	Emp_id	Salary	Move_Sal	Designation
1	1	50000	50000	Lead
2	2	30000	80000	Associate
3	3	60000	90000	Sr. Associate
4	4	40000	100000	Lead
5	5	60000	100000	Sr. Associate
6	6	20000	80000	Associate
7	7	10000	30000	Associate
8	8	30000	40000	Associate
9	9	50000	80000	Lead

TERADATA CASE STUDY-5

Name: SANTANU ADHIKARY
Employee ID : 2320846
Cohort Code : CSDAIA24DB002

Create database, table and insert values to it.

```
select database ;
drop table TableName_2320846 ;
CREATE TABLE TableName_2320846
        ,FALLBACK
        ,NO BEFORE JOURNAL
        ,NO AFTER JOURNAL
        (
                Emp_id integer not null primary key ,
                Salary Integer,
                Designation varchar(50)
        )
        UNIQUE PRIMARY INDEX( Emp_id );

select * from tablename_2320846 order by emp_id ;


Insert Into TableName_2320846 values(1,50000,'Lead') ;
Insert Into TableName_2320846 values(2,30000,'Associate') ;
Insert Into TableName_2320846 values(3,60000,'Sr. Associate') ;
Insert Into TableName_2320846 values(4,40000,'Lead') ;
Insert Into TableName_2320846 values(5,60000,'Sr. Associate') ;
Insert Into TableName_2320846 values(6,20000,'Associate') ;
Insert Into TableName_2320846 values(7,10000,'Associate') ;
Insert Into TableName_2320846 values(8,30000,'Associate') ;
Insert Into TableName_2320846 values(9  ,50000,'Lead ' ) ;
```

Teradata Result Set Viewer

Result Set - SQL Edi | Result Set - SQL Edi | Result Set - SQL Edi

	Emp_id	Salary	Designation
1	1	50000	Lead
2	2	30000	Associate
3	3	60000	Sr. Associate
4	4	40000	Lead
5	5	60000	Sr. Associate
6	6	20000	Associate
7	7	10000	Associate
8	8	30000	Associate
9	9	50000	Lead

Question 1 :

```
--
--1.    Write a query to fetch the sum of salaries given to each designation.

select t.* ,
    sum(salary) over(partition by Designation order by emp_id
    rows between unbounded preceding and unbounded following)
from tablename_2320846 t ;
```

Result Set - SQL Edi | Result Set - SQL Edi | Result Set - SQL Edi

	Emp_id	Salary	Designation	Group Sum(Sala...
1	2	30000	Associate	90000
2	6	20000	Associate	90000
3	7	10000	Associate	90000
4	8	30000	Associate	90000
5	1	50000	Lead	140000
6	4	40000	Lead	140000
7	9	50000	Lead	140000
8	3	60000	Sr. Associate	120000
9	5	60000	Sr. Associate	120000

Question 2:

```
--2.    Write a query to fetch employees whose designation is Associate, and increase their salary by 10000

select emp_id ,(salary + 10000) as  salary , designation
from tablename_2320846
where designation = 'Associate';
```

Teradata Result Set Viewer

Result Set - SQL Edi | Result Set - SQL Edi | »12

	Emp_id	salary	Designation
1	7	20000	Associate
2	8	40000	Associate
3	6	30000	Associate
4	2	40000	Associate

Question 3:

```
--3.    Create a new column 'Quant_Sal', and populate the Quantile values for
--      all the employees based on the salary column. (Quantile constant - 100)


SELECT
    EMP_ID ,
    SALARY ,
    (A.RN-1) * 10 AS QUANT_SAL ,
    DESIGNATION
    FROM (
    SELECT EMP_ID , SALARY,
    ROW_NUMBER() OVER(ORDER BY SALARY,EMP_ID)
    AS RN ,
    DESIGNATION
    FROM TABLENAME_2320846) A  ;
```

Result Set - teradat | Result Set - teradat | Result Set - teradat | »9

	Emp_id	Salary	QUANT_SAL	Designation
1	7	10000	0	Associate
2	6	20000	10	Associate
3	2	30000	20	Associate
4	8	30000	30	Associate
5	4	40000	40	Lead
6	1	50000	50	Lead
7	9	50000	60	Lead
8	3	60000	70	Sr. Associate
9	5	60000	80	Sr. Associate