Assignment E9

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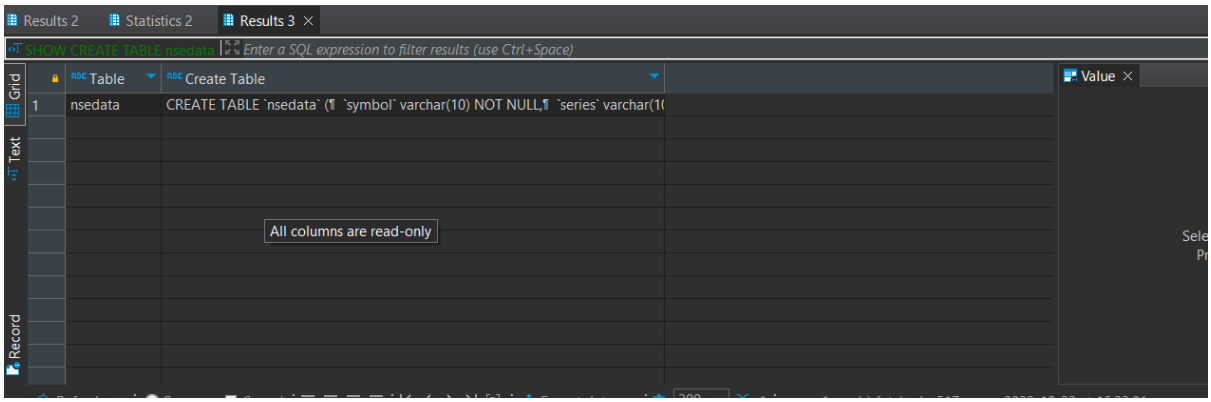
2. Select the database stock data using SQL

```
USE stockdata;
```

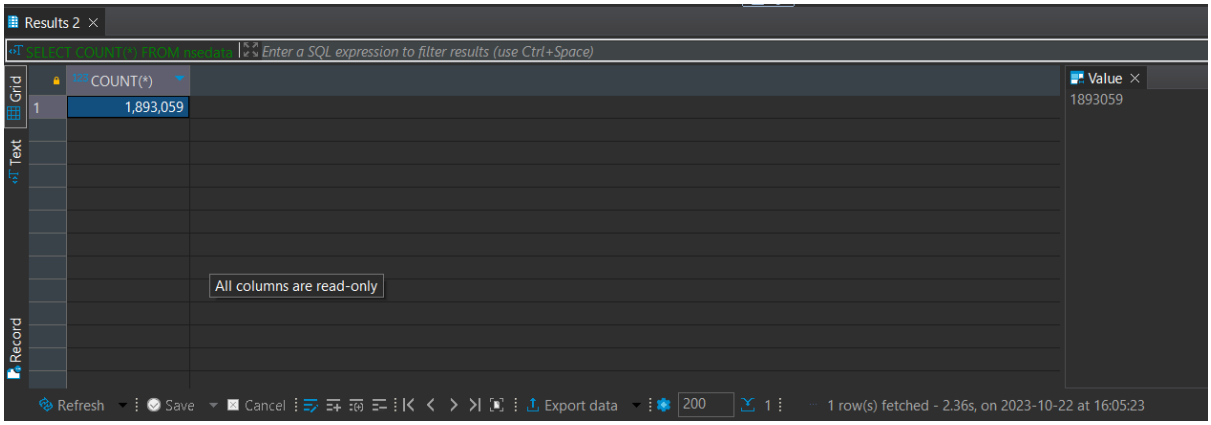
3. Get a schema dump of the table nsedata

```
SHOW CREATE TABLE nsedata;
```



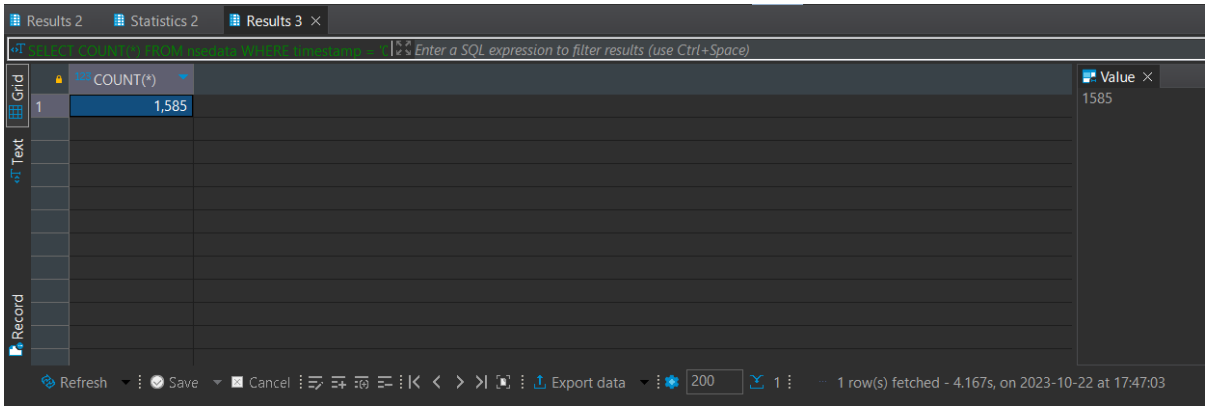
4. Get a count of the total number of records in nsedata

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



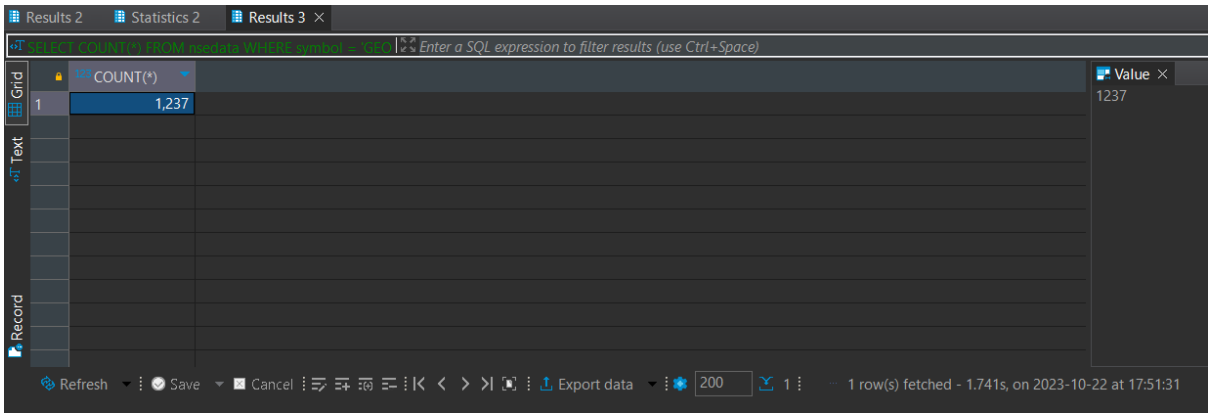
5. Get the total count of the records for the month “October 2012”

```
SELECT COUNT(*) FROM nsedata WHERE timestamp = '01-OCT-2012';
```



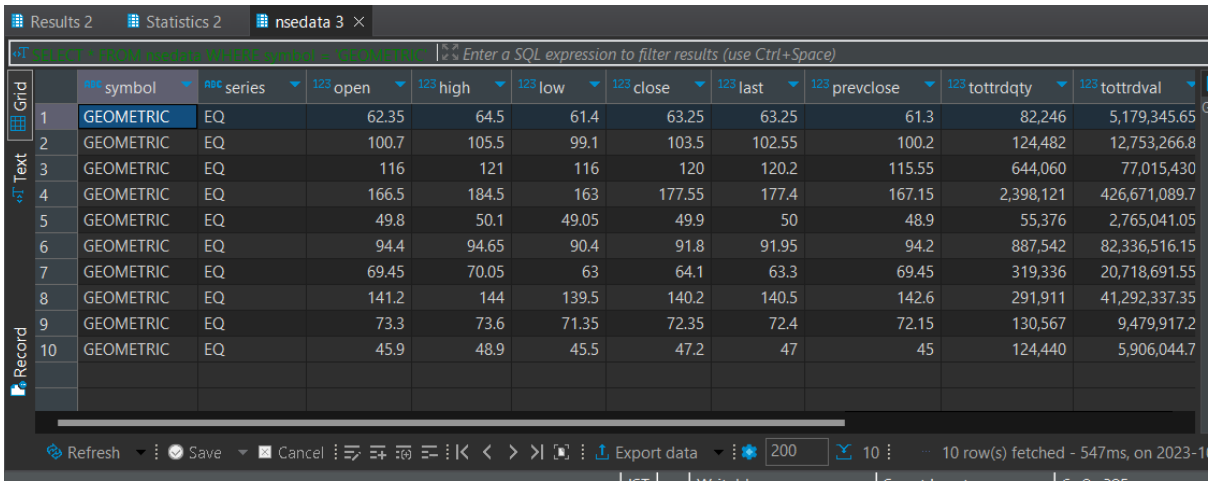
6. Repeat ‘4’, but only for the stock with symbol “GEOMETRIC”

```
SELECT COUNT(*) FROM nsedata WHERE symbol = 'GEOMETRIC';
```



7. Repeat ‘6’, but only display the first 10 records

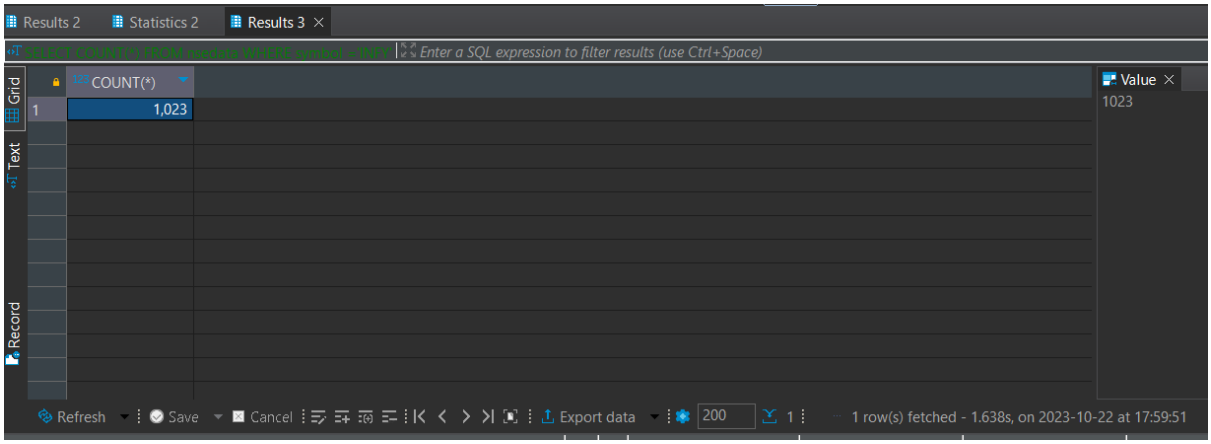
```
SELECT * FROM nsedata WHERE symbol = 'GEOMETRIC' LIMIT 10;
```



	symbol	series	open	high	low	close	last	prevclose	tottrdqty	tottrdval
1	GEOMETRIC	EQ	62.35	64.5	61.4	63.25	63.25	61.3	82,246	5,179,345.65
2	GEOMETRIC	EQ	100.7	105.5	99.1	103.5	102.55	100.2	124,482	12,753,266.8
3	GEOMETRIC	EQ	116	121	116	120	120.2	115.55	644,060	77,015,430
4	GEOMETRIC	EQ	166.5	184.5	163	177.55	177.4	167.15	2,398,121	426,671,089.7
5	GEOMETRIC	EQ	49.8	50.1	49.05	49.9	50	48.9	55,376	2,765,041.05
6	GEOMETRIC	EQ	94.4	94.65	90.4	91.8	91.95	94.2	887,542	82,336,516.15
7	GEOMETRIC	EQ	69.45	70.05	63	64.1	63.3	69.45	319,336	20,718,691.55
8	GEOMETRIC	EQ	141.2	144	139.5	140.2	140.5	142.6	291,911	41,292,337.35
9	GEOMETRIC	EQ	73.3	73.6	71.35	72.35	72.4	72.15	130,567	9,479,917.2
10	GEOMETRIC	EQ	45.9	48.9	45.5	47.2	47	45	124,440	5,906,044.7

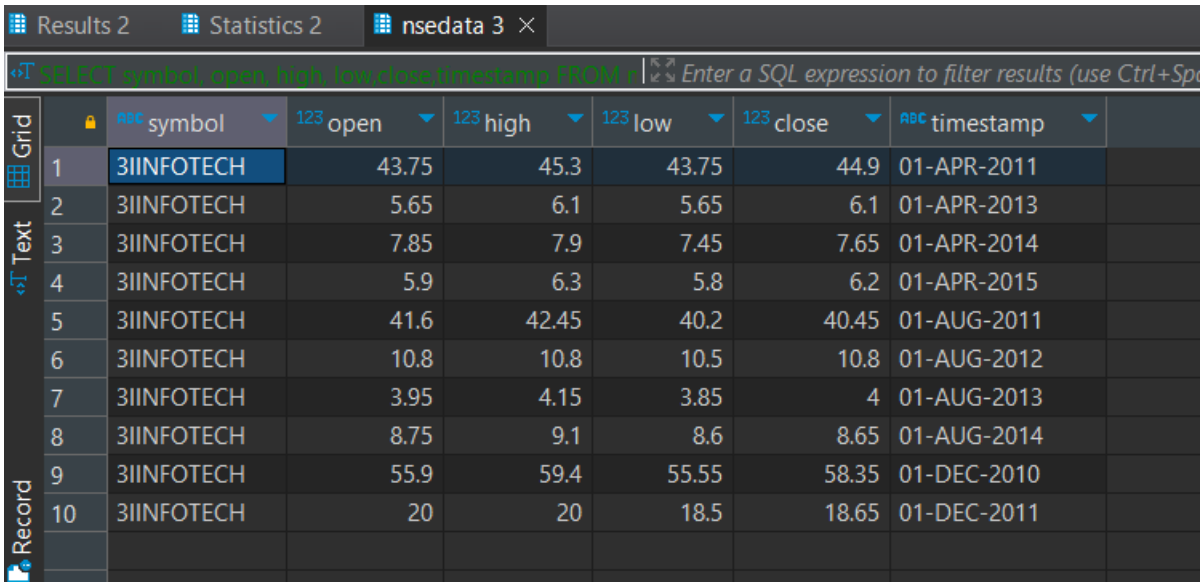
8. Totally, how many records of “INFY” does the table contain?

```
SELECT COUNT(*) FROM nsedata WHERE symbol ='INFY';
```



9. Get a listing of the first 10 records of “3IINFOTECH”, but the listing should contain only the following columns: symbol, open, high, low, close, and timestamp

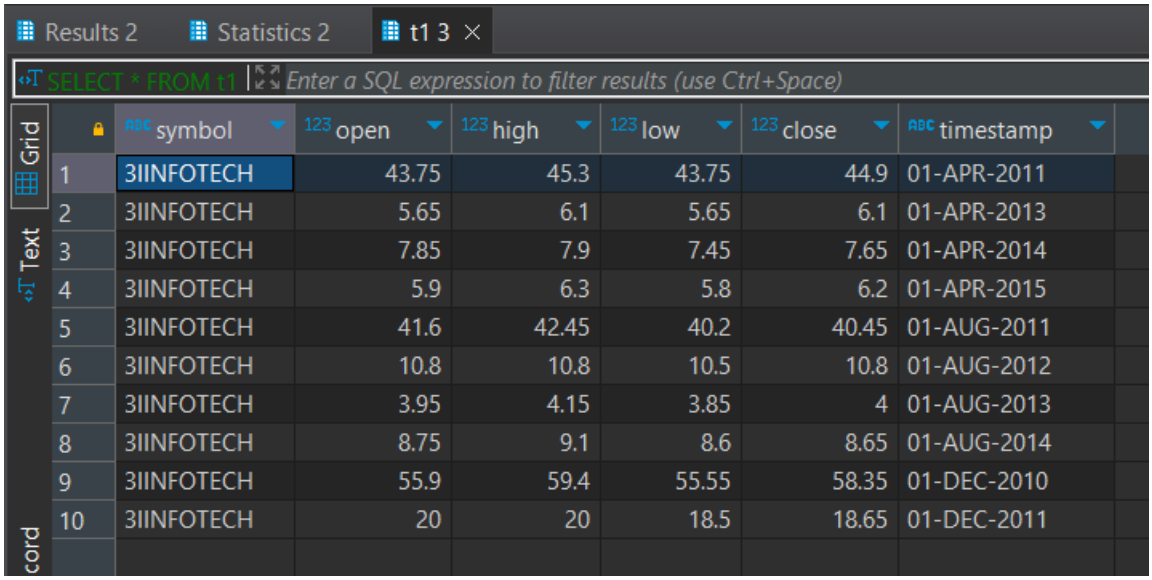
```
SELECT symbol, open, high, low,close,timestamp FROM nsedata
WHERE symbol = '3IINFOTECH'
LIMIT 10;
```



	symbol	open	high	low	close	timestamp
1	3IINFOTECH	43.75	45.3	43.75	44.9	01-APR-2011
2	3IINFOTECH	5.65	6.1	5.65	6.1	01-APR-2013
3	3IINFOTECH	7.85	7.9	7.45	7.65	01-APR-2014
4	3IINFOTECH	5.9	6.3	5.8	6.2	01-APR-2015
5	3IINFOTECH	41.6	42.45	40.2	40.45	01-AUG-2011
6	3IINFOTECH	10.8	10.8	10.5	10.8	01-AUG-2012
7	3IINFOTECH	3.95	4.15	3.85	4	01-AUG-2013
8	3IINFOTECH	8.75	9.1	8.6	8.65	01-AUG-2014
9	3IINFOTECH	55.9	59.4	55.55	58.35	01-DEC-2010
10	3IINFOTECH	20	20	18.5	18.65	01-DEC-2011

10. Repeat '9', but this time use the results to create a temporary table t1

```
CREATE TEMPORARY TABLE t1 AS
SELECT symbol, open, high, low, close, timestamp
FROM nsedata
WHERE symbol = '3IINFOTECH'
LIMIT 10;
SELECT * FROM t1;
```



	symbol	open	high	low	close	timestamp
1	3IINFOTECH	43.75	45.3	43.75	44.9	01-APR-2011
2	3IINFOTECH	5.65	6.1	5.65	6.1	01-APR-2013
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4	3IINFOTECH	5.9	6.3	5.8	6.2	01-APR-2015
5	3IINFOTECH	41.6	42.45	40.2	40.45	01-AUG-2011
6	3IINFOTECH	10.8	10.8	10.5	10.8	01-AUG-2012
7	3IINFOTECH	3.95	4.15	3.85	4	01-AUG-2013
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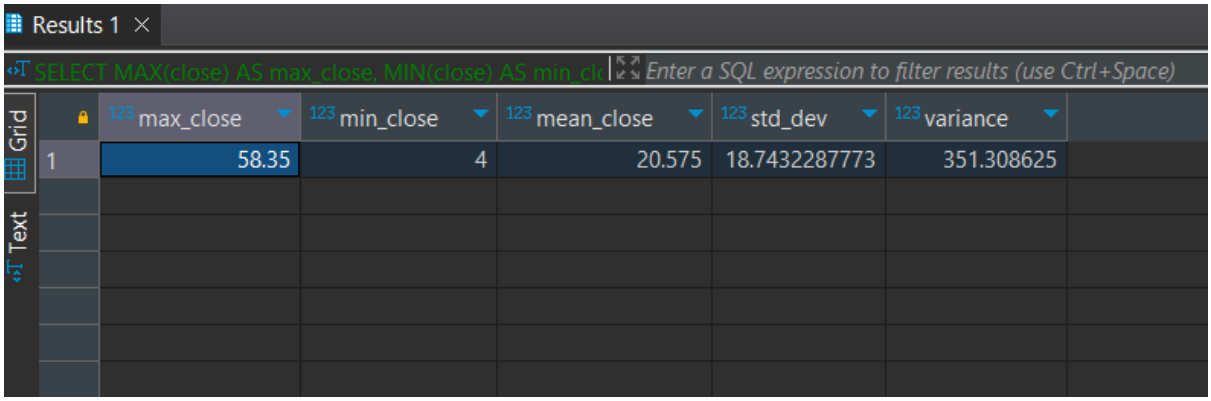
11. Using t1 find out the following for the column close: max, min, mean, standard deviation and variance

```
SELECT
  MAX(close) AS max_close,
  MIN(close) AS min_close,
  AVG(close) AS mean_close,
  STDDEV(close) AS std_dev,
  VARIANCE(close) AS variance
FROM t1;
```



	max_close	min_close	mean_close	std_dev	variance
1	58.35	4	20.575	18.7432287773	351.308625

12. How will you find out the value of the median?

Median can be found using below snippet of code

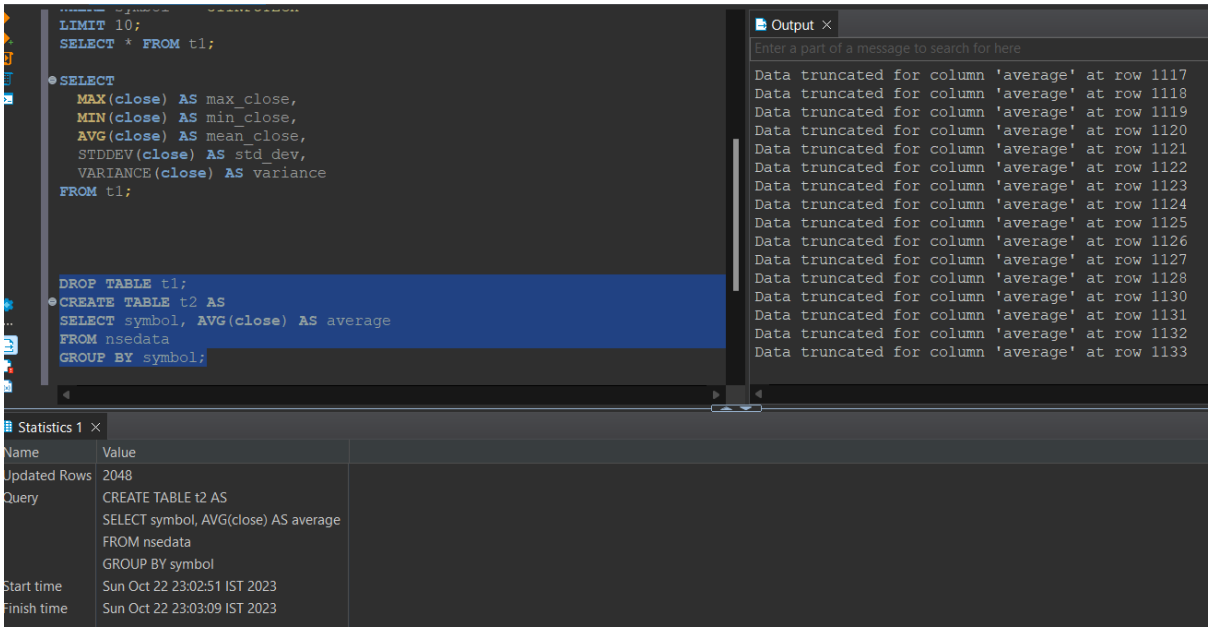
```
SELECT
  PERCENTILE_CONT(0.5) WITHIN GROUP (ORDER BY close) AS median
FROM t1;
```

13. Delete table t1

```
DROP TABLE t1;
```

14. Use nsedata. Using the GROUP BY functionality of SQL create a table t2 containing the average value of close for each and every symbol in the table. Hint: the table will have the columns: symbol, average

```
DROP TABLE t1;
CREATE TABLE t2 AS
SELECT symbol, AVG(close) AS average
FROM nsedata
GROUP BY symbol;
```



15. Create a table t3 such that it contains the following columns: symbol, open, close, "average of open and close". Fill up this table for the company GEOMETRIC, for the month of October 2012

```
CREATE TABLE t3 AS
SELECT
    symbol,
    open,
    close,
    (open + close) / 2 AS average_open_close
FROM
    nsedata
WHERE
    symbol = 'GEOMETRIC'
    AND STR_TO_DATE(timestamp, '%d-%M-%Y') BETWEEN '2012-10-01' AND '2012-
10-31';
```

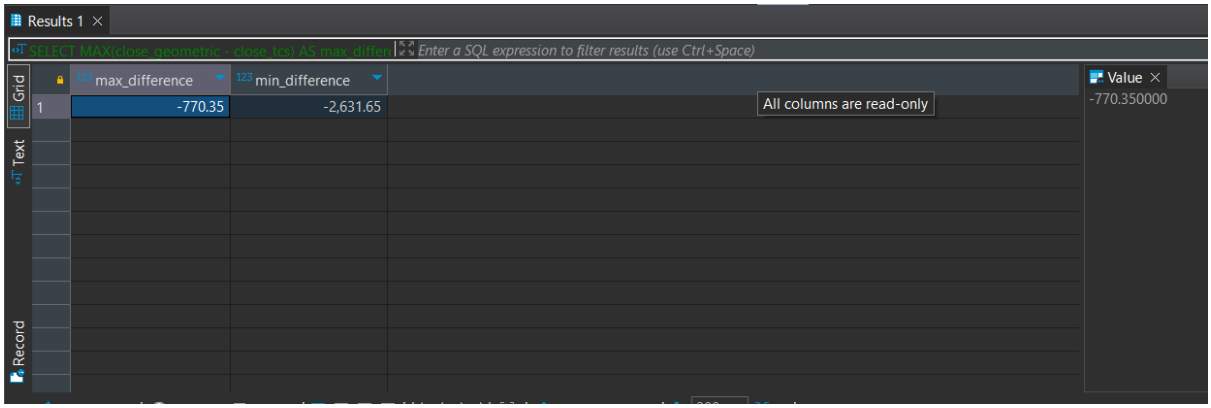
16. It is required to create a table t4 such that it contains the data for two companies GEOMETRIC and TCS. The columns of this table should be as follows: timestamp, close_tcs, close_geometric. Hint: use JOIN

```
CREATE TABLE t4 AS
SELECT
    A.timestamp,
    A.close AS close_geometric,
    B.close AS close_tcs
FROM
```

```
    nsedata A
JOIN
    nsedata B
ON
    A.timestamp = B.timestamp
WHERE
    A.symbol = 'GEOMETRIC'
    AND B.symbol = 'TCS';
```

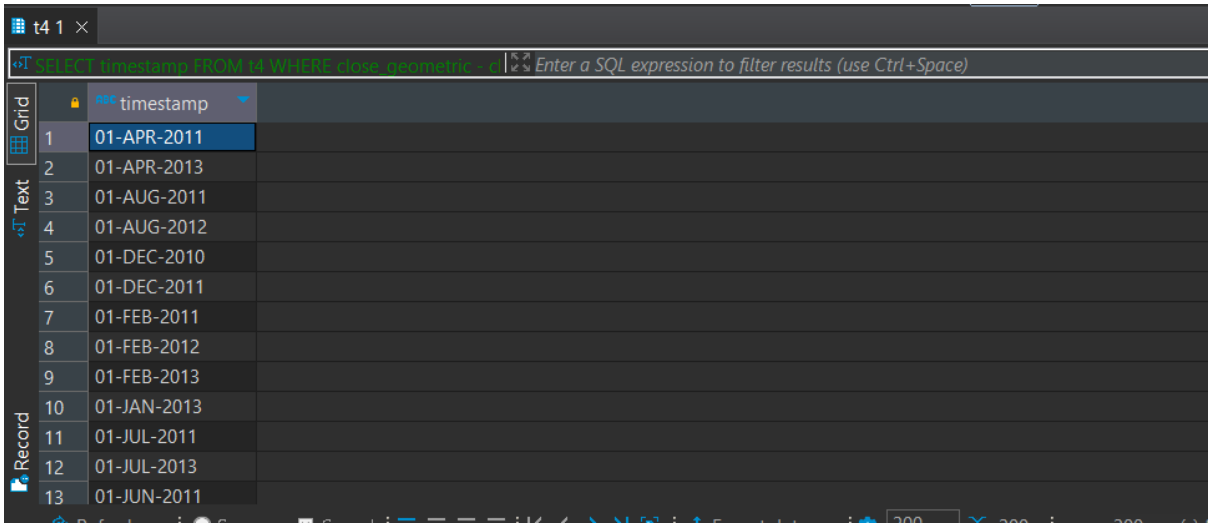
17. Find out the maximum and minimum difference in the daily closing prices of these two companies.

```
SELECT
    MAX(close_geometric - close_tcs) AS max_difference,
    MIN(close_geometric - close_tcs) AS min_difference
FROM
    t4;
```



18. Based on t4 can you identify those days on which the difference in their closing price was more than the average of the minimum and maximum difference.

```
SELECT
    timestamp
FROM
    t4
WHERE
    close_geometric - close_tcs > (
        (SELECT MAX(close_geometric - close_tcs) FROM t4) +
        (SELECT MIN(close_geometric - close_tcs) FROM t4)
    ) / 2;
```



19. Based on nsedata, create table t5 such that it contains the average close price of each company traded in the month of April 2012. The table should be sorted in descending order of the average close price.

```
CREATE TABLE t5 AS
SELECT
    symbol,
    open,
    close,
    (open + close) / 2 AS average_open_close
FROM
    nsedata
WHERE
    symbol = 'GEOMETRIC'
    AND DATE_FORMAT(STR_TO_DATE(timestamp, '%d-%M-%Y'), '%Y-%m-%d') BETWEEN
'2012-10-01' AND '2012-10-31';
```

20. Not all companies are traded every day. It is required to create a table that contains a count of the days each company has been traded. The table should be sorted in descending order of the count

```
CREATE TABLE t6 AS
SELECT
    symbol,
    open,
    close,
    (open + close) / 2 AS average_open_close
FROM
    nsedata
WHERE
    symbol = 'GEOMETRIC'
    AND DATE(STR_TO_DATE(timestamp, '%d-%M-%Y')) BETWEEN '2012-10-01' AND
'2012-10-31';
```