#1. Calculating Volatility of all 3 stocks.

By Defn: Volatility is the degree of variation of a trading prices over series of a time.

#Formula : Avg(High - Low)

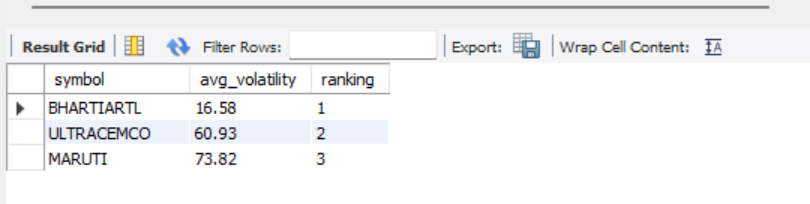
Select symbol, round(avg(high - low),2) as avg\_volatility,

dense\_rank() over(order by avg(high - low))

as ranking from A1

where symbol <>'BHARTI'

group by symbol;

Output: Bharti Airtel has the least volatility and Maruti Suzuki has higher volatility.  
  


2. Calculating drawdown/ fall in stock price.

A drawdown refers to how much an investment or trading account is down from the peak before it recovers back to the peak.  
  
Formula: (Final Value – Initial Value)/Initial Value \* 100

#2. Calculating the drawdown/ fall in stock price

/\* A. Calculating for Bharti\_Airtel Stock Price \*/

set @pre\_covid\_bha\_artl\_price:=(Select close from bharti\_airtel where date='2020-03-20');

set @post\_covid\_bha\_artl\_price:=(Select close from bharti\_airtel where date='2020-03-23');

Select @pre\_covid\_bha\_artl\_price;

Select @post\_covid\_bha\_artl\_price;

Select round(((-@pre\_covid\_bha\_artl\_price+@post\_covid\_bha\_artl\_price)/@pre\_covid\_bha\_artl\_price),5)\* 100 as Bharti\_Airtel\_DrawDown;

/\* B. Calculating for Maruti\_Suzuki Stock Price \*/

set @pre\_covid\_mar\_suz\_price:=(Select close from maruti\_suzuki where date='2020-03-20');

set @post\_covid\_mar\_suz\_price:=(Select close from maruti\_suzuki where date='2020-03-23');

Select @pre\_covid\_mar\_suz\_price;

Select @post\_covid\_mar\_suz\_price;

Select round(((-@pre\_covid\_mar\_suz\_price+@post\_covid\_mar\_suz\_price)/@pre\_covid\_mar\_suz\_price),5)\* 100 as Maruti\_Suzuki\_DrawDown;

/\* C. Calculating for Ultra Cement Stock Price \*/

set @pre\_covid\_ult\_cem\_price:=(Select close from ultra\_cemco where date='2020-03-20');

set @post\_covid\_ult\_cem\_price:=(Select close from ultra\_cemco where date='2020-03-23');

Select @pre\_covid\_ult\_cem\_price;

Select @post\_covid\_ult\_cem\_price;

Select round(((-@pre\_covid\_ult\_cem\_price+@post\_covid\_ult\_cem\_price)/@pre\_covid\_ult\_cem\_price),5)\* 100 as Ultra\_Cement\_DrawDown;

Select round(((-@pre\_covid\_bha\_artl\_price+@post\_covid\_bha\_artl\_price)/@pre\_covid\_bha\_artl\_price),5)\* 100 as Bharti\_Airtel\_DrawDown

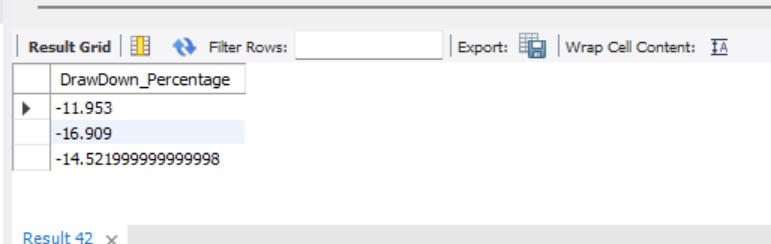
union

Select round(((-@pre\_covid\_mar\_suz\_price+@post\_covid\_mar\_suz\_price)/@pre\_covid\_mar\_suz\_price),5)\* 100 as Maruti\_Suzuki\_DrawDown

union

Select round(((-@pre\_covid\_ult\_cem\_price+@post\_covid\_ult\_cem\_price)/@pre\_covid\_ult\_cem\_price),5)\* 100 as Ultra\_Cement\_DrawDown;

Output: Bharti Airtel has least drawdown, and Maruti Suzuki has most drawdown



3. Finding recovery days as number of days taken by stock to close above it’s pre-covid price.

set @date\_close\_more\_than\_precovid\_maruti:=

(Select date from

(Select date, close, row\_number() over(order by date) as rank\_based\_on\_date from maruti\_suzuki

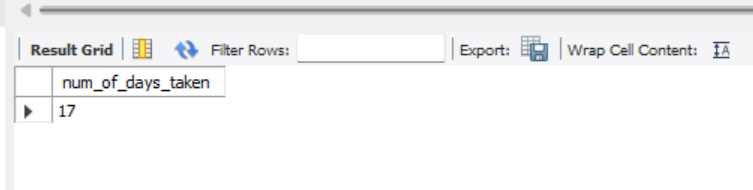
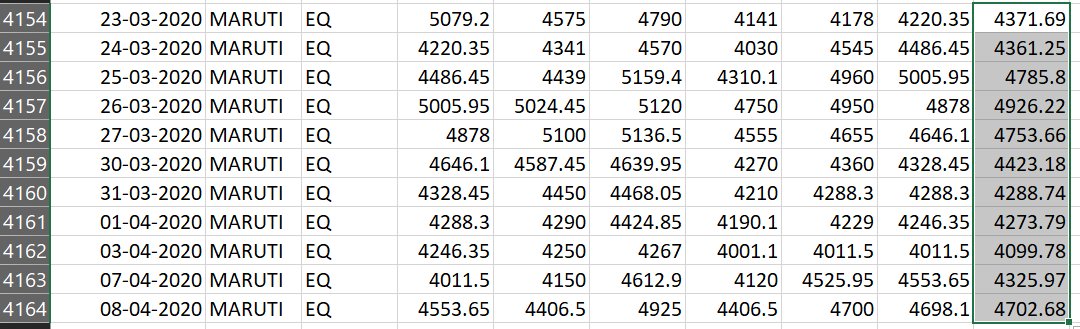
where date between '2020-03-23' and '2021-04-30' and close>=@pre\_covid\_mar\_suz\_price) as A3

where rank\_based\_on\_date =1);

select @date\_close\_more\_than\_precovid\_maruti;

select timestampdiff(day,"2020-03-23", @date\_close\_more\_than\_precovid\_maruti)

as num\_of\_days\_taken;

Output: No. of days taken by Maruti Suzuki stock to cross its precovid close price  
  
  
  
  


#4. Number of days when stock price closed above its previous day closed price

Drop view A2;

create view A2 as (Select symbol, date, close from bharti\_airtel

union

Select symbol, date, close from maruti\_suzuki

union

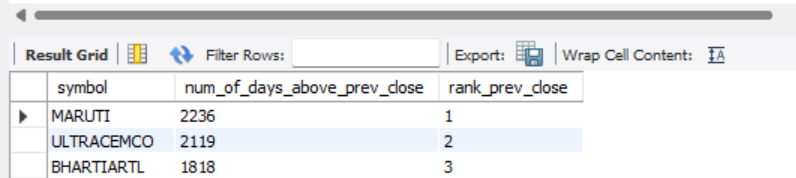
Select symbol, date, close from ultra\_cemco);

Select \* from A2;

Select symbol, sum(if((close>prev\_day\_CC),1,0)) as num\_of\_days\_above\_prev\_close,

dense\_rank() over(order by sum(if((close>prev\_day\_CC),1,0)) desc) as rank\_prev\_close from

(select symbol, date, close, lag(close) over(partition by symbol order by date) as prev\_day\_cc from A2) as xyz group by symbol;

Output:   
  


#5. Calculating CAGR( Compound Annual Growth Rate of all 3 stocks)

#A. Bharti Airtel

set @begin\_price\_bha\_artl:=(select close from bharti\_airtel where date='2010-01-04');

set @end\_price\_bha\_artl:=(select close from bharti\_airtel where date='2021-04-30');

Select @begin\_price\_bha\_artl;

Select @end\_price\_bha\_artl;

set @number\_of\_years:= (select round(timestampdiff(day,'2010-01-04', '2021-04-30')/365,3));

select round((power((@end\_price\_bha\_artl/@begin\_price\_bha\_artl),(1/@number\_of\_years) )-1)\*100,4) as BHA\_ARTL\_CAGR;

#A. Maruti Suzuki

set @begin\_price\_mar\_suz:=(select close from maruti\_suzuki where date='2010-01-04');

set @end\_price\_mar\_suz:=(select close from maruti\_suzuki where date='2021-04-30');

Select @begin\_price\_mar\_suz;

Select @end\_price\_mar\_suz;

set @number\_of\_years2:= (select round(timestampdiff(day,'2010-01-04', '2021-04-30')/365,3));

select round((power((@end\_price\_mar\_suz/@begin\_price\_mar\_suz),(1/@number\_of\_years2) )-1)\*100,4) as MARUTI\_SUZUKI\_CAGR;

#C. Ultra Tech Cement

set @begin\_price\_ult\_cem:=(select close from ultra\_cemco where date='2010-01-04');

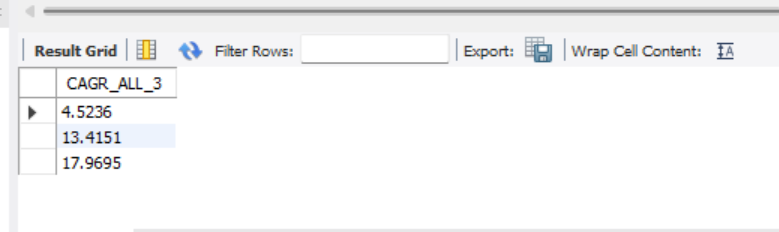
set @end\_price\_ult\_cem:=(select close from ultra\_cemco where date='2021-04-30');

Select @begin\_price\_ult\_cem;

Select @end\_price\_ult\_cem;

set @number\_of\_years3:= (select round(timestampdiff(day,'2010-01-04', '2021-04-30')/365,3));

select round((power((@end\_price\_ult\_cem/@begin\_price\_ult\_cem),(1/@number\_of\_years3) )-1)\*100,4) as ULT\_CEM\_CAGR;

Output:  


6. Finding Max Volume month of all 3 stocks

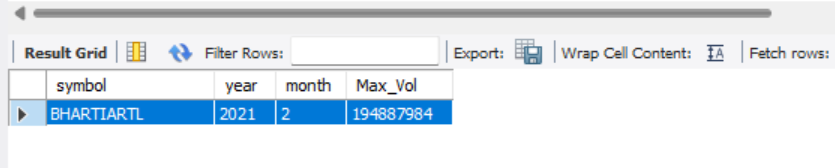
Select symbol,year(date) as year, month(date) as month, max(volume) as Max\_Vol

from bharti\_airtel

group by year(date), month(date), symbol

order by max(volume) desc

limit 1;



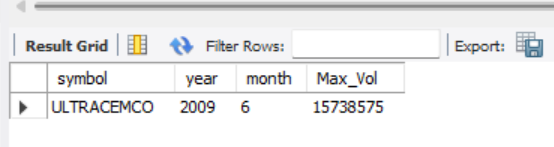
Select symbol,year(date) as year, month(date) as month, max(volume) as Max\_Vol

from ultra\_cemco

group by year(date), month(date), symbol

order by max(volume) desc

limit 1;



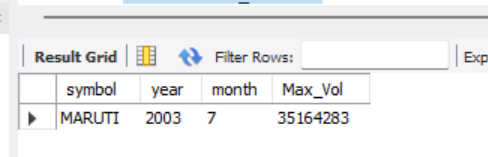
Select symbol,year(date) as year, month(date) as month, max(volume) as Max\_Vol

from maruti\_suzuki

group by year(date), month(date), symbol

order by max(volume) desc

limit 1;



Final Analysis as per above result set:

