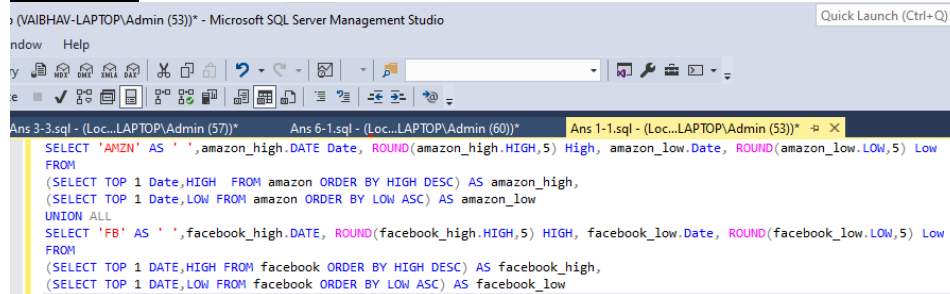


BUSINESS ANALYTICS AND DECISION MAKING

PART 1

1. For both stocks AMZN and FB, on what date (YYYY-MM-DDD) did they reach out their highest and lowest value. Provide the SQL script used to obtain the answer and provide the final output in the following format, use two decimals for the final answer.

QUERY:



```
SELECT 'AMZN' AS ' ',amazon_high.DATE Date, ROUND(amazon_high.HIGH,5) High, amazon_low.Date, ROUND(amazon_low.LOW,5) Low
FROM
(SELECT TOP 1 Date,HIGH FROM amazon ORDER BY HIGH DESC) AS amazon_high,
(SELECT TOP 1 Date,LOW FROM amazon ORDER BY LOW ASC) AS amazon_low
UNION ALL
SELECT 'FB' AS ' ',facebook_high.DATE, ROUND(facebook_high.HIGH,5) HIGH, facebook_low.Date, ROUND(facebook_low.LOW,5) Low
FROM
(SELECT TOP 1 DATE,HIGH FROM facebook ORDER BY HIGH DESC) AS facebook_high,
(SELECT TOP 1 DATE,LOW FROM facebook ORDER BY LOW ASC) AS facebook_low
```

OUTPUT

	Date	High	Date	Low
AMZN	2017-06-19	1017	2012-11-15	218.17999
FB	2017-06-26	156.5	2012-09-04	17.55

COMMENT: Here, on 19-06-2017 the value of Amazon stock was 1017 which was highest as the latest year as per the data but, on 15-11-2012 it was only 218.17999. Further, the stock value of Facebook was only 17.55 on 09-04-2012 which increased to 156.5 on 26-06-2017.

2. For both stocks AMZN and FB, during 2015 what was the total volume traded for the entire year? Provide the SQL script used to obtain the answer and provide the final output in the format provided below. Use comma (,) as a separator when providing the answer and do not provide any decimals. Generate a Pie chart that shows Total Volume % for each of the stocks, provide appropriate Title and labelling.

BUSINESS ANALYTICS AND DECISION MAKING

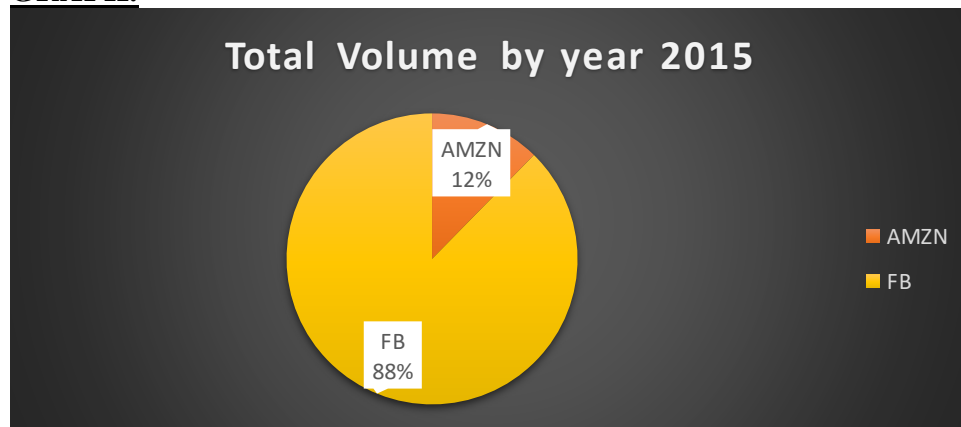
QUERY:

```
(VAIBHAV-LAPTOP\Admin (52))* - Microsoft SQL Server Management Studio
SELECT 'AMZN' " ", FORMAT (ROUND (SUM (Volume), 0), '#,###,##0') 'Total Volume (2015)'
FROM amazon WHERE YEAR(Date)=2015
UNION
SELECT 'FB' " ", FORMAT (ROUND (SUM (Volume), 0), '#,###,##0') 'Total Volume (2015)'
FROM facebook WHERE YEAR(Date)=2015
```

OUTPUT:

	Total Volume (2015)
AMZN	957,045,956
FB	6,792,836,310

GRAPH:



COMMENT: So, as per the pie chart here we can see that the stocks of Amazon in the year 2015 was only 12% while, the percentage of Facebook stocks was 88% in 2015.

- For both stocks AMZN and FB, during the period 2012-2015 what Day of the Week represents the highest traded volume for each stock? Provide the SQL script used to obtain the answer and provide the final output in the format below. For total Volume show the final answer using two decimals (1 billion=1,000 millions).

BUSINESS ANALYTICS AND DECISION MAKING

QUERY:

```
(VAIBHAV-LAPTOP\Admin (56)) - Microsoft SQL Server Management Studio
Quick Launch (Ctrl+Q)

SELECT 'AMZN' ' ', (SELECT DATENAME(WEEKDAY, DATE) FROM amazon AS AMAZON1 WHERE MAX(amazon.Volume) = AMAZON1.Volume) AS DOW,
(SELECT TOP 1 (ROUND((MAX(amazon.Volume)*0.001),2)) FROM amazon) AS "Volume (Billions)"
FROM amazon WHERE YEAR(DATE) BETWEEN 2012 AND 2015

UNION

SELECT 'FB' ' ', (SELECT DATENAME(WEEKDAY, DATE) FROM facebook AS FACEBOOK1 WHERE MAX(facebook.Volume) = FACEBOOK1.Volume) AS DOW,
(SELECT TOP 1 (ROUND((MAX(facebook.Volume)*0.001),2)) FROM facebook) AS "Volume (Billions)"
FROM facebook WHERE YEAR(DATE) BETWEEN 2012 AND 2015;
```

OUTPUT:

	DOW	Volume (Billions)
AMZN	Friday	23856.06
FB	Thursday	365457.89

COMMENT: So, we can see that the highest volume of Amazon stock was on the day of Friday between 2012-2015 whereas, the stock value of Facebook was at the topmost on the day of Thursday from 2012-2015.

- **Generate a Combo chart that shows Total Volume by DOW for each of the stocks. Produce a line chart for FB and a Clustered column graph for AMZN (secondary axis), provide appropriate Title and labelling.**

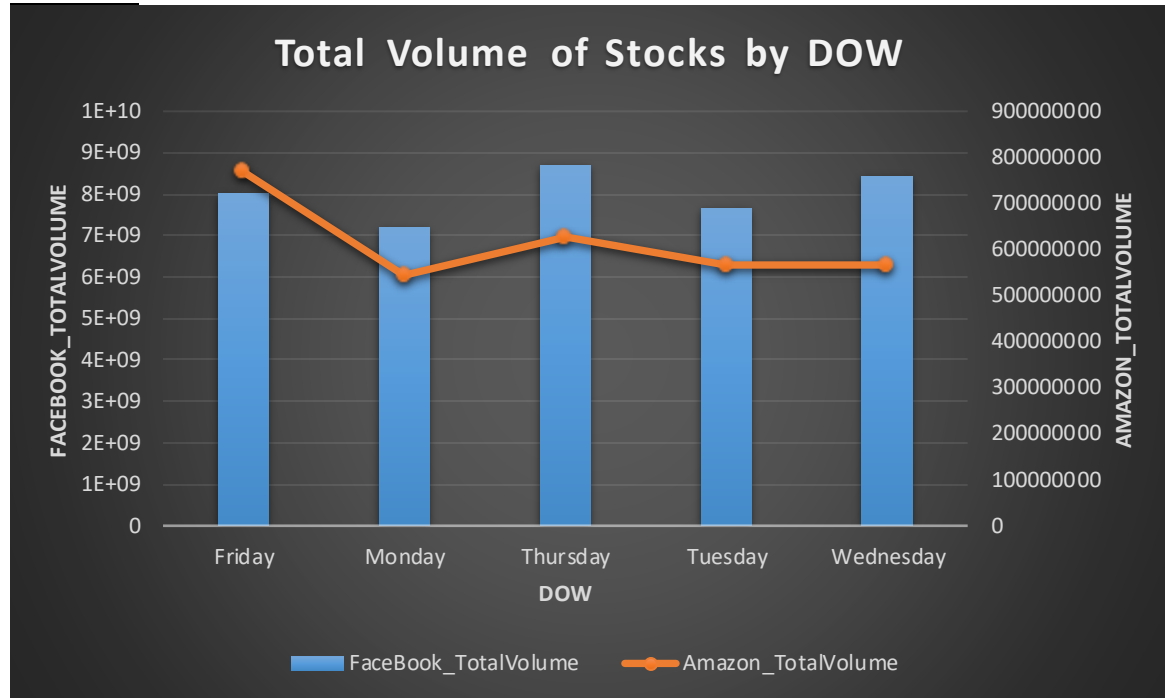
QUERY:

```
(VAIBHAV-LAPTOP\Admin (58))* - Microsoft SQL Server Management Studio
Quick Launch (Ctrl+Q)

SELECT x.DOW, SUM(FB_Volume) AS FaceBook_TotalVolume, SUM(AMZN_Volume) AS Amazon_TotalVolume
FROM
(SELECT amazon.volume AS AMZN_Volume, facebook.volume AS FB_Volume, DATENAME(WEEKDAY, amazon.DATE) AS DOW
FROM amazon
INNER JOIN
facebook ON amazon.DATE = facebook.DATE
WHERE YEAR(facebook.DATE) BETWEEN 2012 AND 2015
) x
GROUP BY x.DOW
ORDER BY x.DOW;
```

BUSINESS ANALYTICS AND DECISION MAKING

GRAPH:



COMMENT: So, here we can see that the Facebook as well as Amazon's total volume of stock was highest on Thursday and Friday but, both the company's stocks value was lowest on Monday as per the combo chart.

PART-2

INDRODUCTION:

To begin with, we have got two biggest datasets which are Amazon & Facebook between the years of 2012 to 2017. In this datasets it demonstrates about the highest as well as lowest price of their stocks, when it is open in the stock market and it got closed on the same day with what value.

Along with this, there are other features such as volume it is a number of shares that are been treated in the similar stocks or for other interest over a period of time. To illustrates, dividend is mostly use for the payment done by the organization to the particular stakeholders. Further, there some various Adject object adjClose, adjOpen, as well as adjHigh , adjLow and adjVolume. Finally, Split Ratio means, the holding company while get some extra shares which can be done with the help of stock spit method.

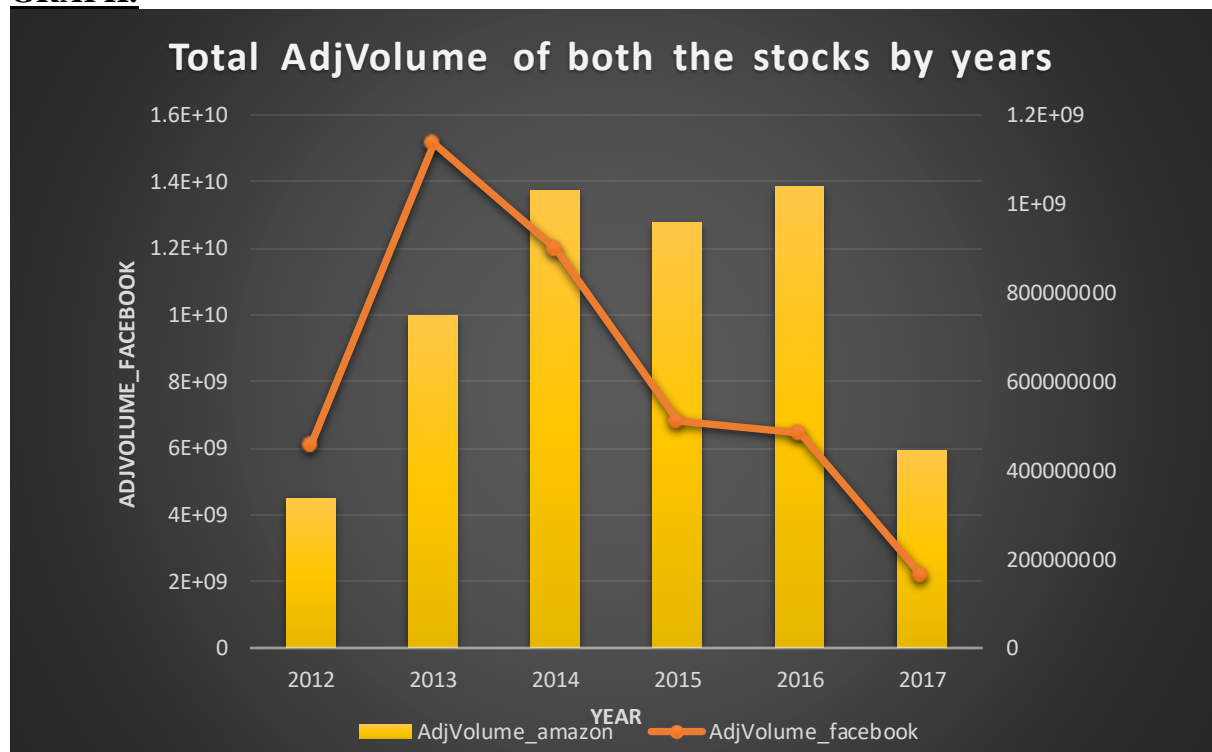
BUSINESS ANALYTICS AND DECISION MAKING

BODY OF THE ANALYSIS:

QUERY:

```
Microsoft SQL Server Management Studio
SQL Query Editor - (Local LAPTOP\Admin (59))
SELECT Year, SUM(x) AS AdjVolume_facebook, SUM(x1) AS AdjVolume_amazon
FROM
  (SELECT YEAR facebook.DATE AS YEAR, SUM facebook.AdjVolume AS x, SUM amazon.AdjVolume AS x1
   FROM
     facebook
   INNER JOIN
     amazon ON facebook.DATE = amazon.DATE
   GROUP BY facebook.DATE) AS y
GROUP BY YEAR
ORDER BY YEAR
```

GRAPH:



COMMENT: To start with, as per the comb chart the adjvolume of Facebook was highest in year 2013 but, later it continuously declined in the year 2017, on the other hand, the Amazon adjvolume was inclined from the beginning while, in last year adjvolume dipped down sharply as per the graph.

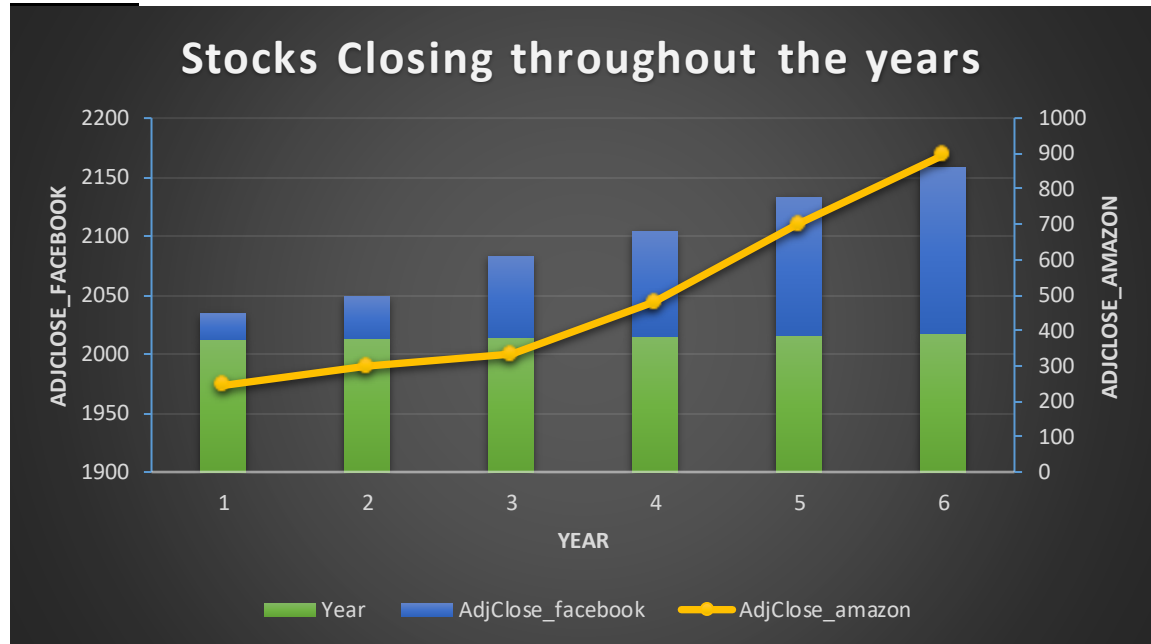
BUSINESS ANALYTICS AND DECISION MAKING

QUERY:

```
Microsoft SQL Server Management Studio
ANS 1-1.sql - (Loc...LAPTOP\Admin (54))
ANS 6-1.sql - (Loc...LAPTOP\Admin (60))
ANS 3-3.sql - (Loc...LAPTOP\Admin (57))

SELECT Year, AVG(x) AS AdjClose_facebook, AVG(x1) AS AdjClose_amazon
FROM
  (SELECT YEAR facebook.DATE AS YEAR, AVG facebook.AdjClose AS x,
   (SELECT YEAR facebook.DATE AS YEAR, AVG facebook.AdjClose AS x,
    AVG amazon.AdjClose AS x1
   FROM facebook
   INNER JOIN
     amazon ON facebook.DATE = amazon.Date
   GROUP BY facebook.DATE) AS y
  GROUP BY YEAR
 ORDER BY YEAR
```

GRAPH:



COMMENT: To begin with, in the starting year we can see that the closing stake value of Facebook was more compare to Amazon but, in later years the stake value of Amazon also rise along with the Facebook, whereas in the last year the closing stake value of Amazon was higher rather than Facebook as per the combo chart.

CONCLUSION:

To recapitulate, in my opinion, from the starting year the value of Facebook stocks were extremely at their high peak point compare to Amazon, but in the later years the volume of Amazon was at the top in the graph & the stocks of Facebook declined.