

ASSIGNMENT-MySQL

Stock Market Data Analysis using MySQL

- Name-Rajeev Ranjan Pan
- Registration Number-11902929

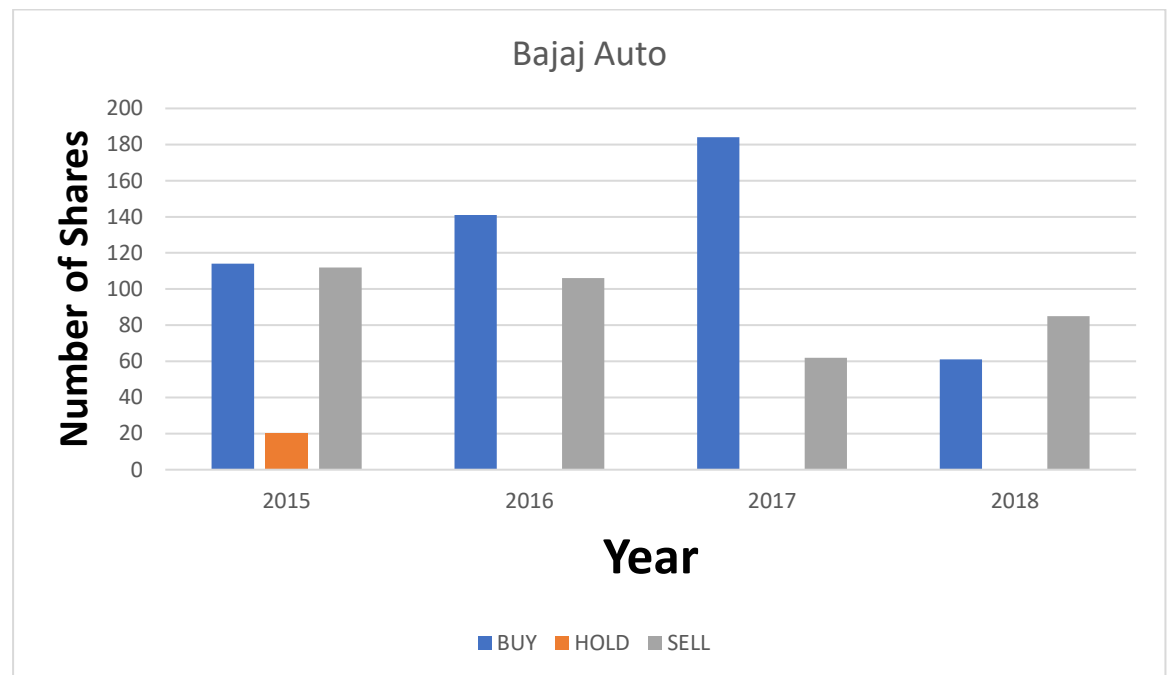
Questions:

1. Create a new table named 'bajaj1' containing the date, close price, 20 Day MA and 50 Day MA. (This has to be done for all 6 stocks)
2. Create a master table containing the date and close price of all the six stocks. (Column header for the price is the name of the stock)
3. Use the table created in Part(1) to generate buy and sell signal. Store this in another table named 'bajaj2'. Perform this operation for all stocks.
4. Create a User defined function, that takes the date as input and returns the signal for that particular day (Buy/Sell/Hold) for the Bajaj stock. (**Hint:** The signal of sell and buy for that particular day is generated by subtracting the previous day's flag value. Flag value is generated using short-term and long-term moving averages.)

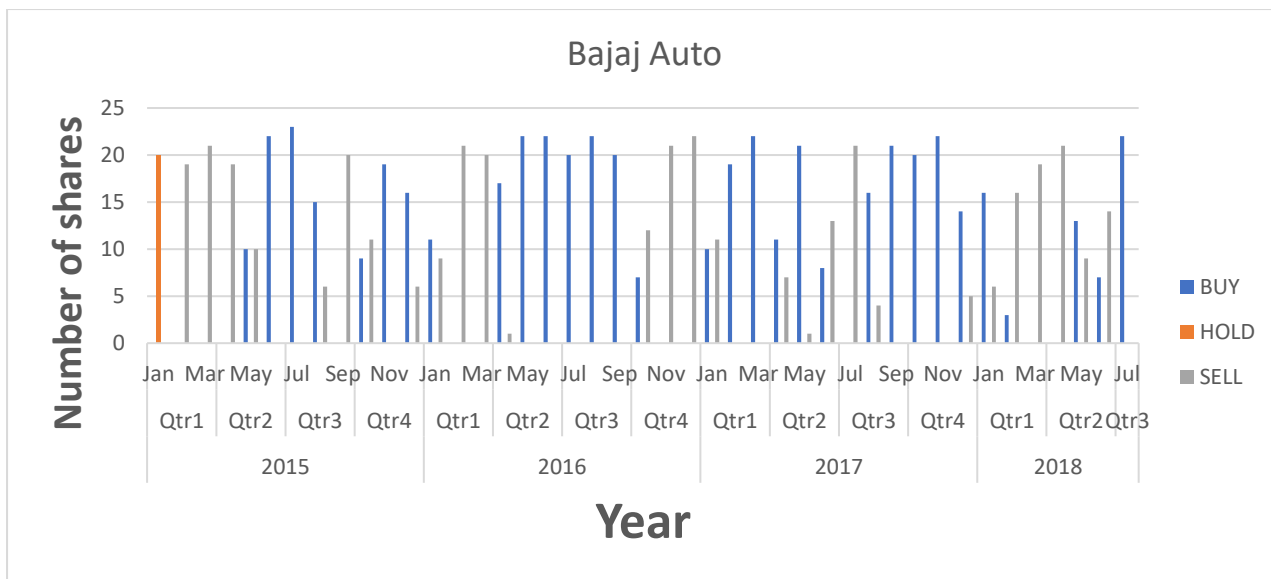
Summary

Bajaj Auto:

Below is the table and chart for variation of signal based on dates:



Year	BUY	HOLD	SELL	Grand Total
2015	114	20	112	246
2016	141		106	247
2017	184		62	246
2018	61		85	146
Grand Total	500	20	365	885

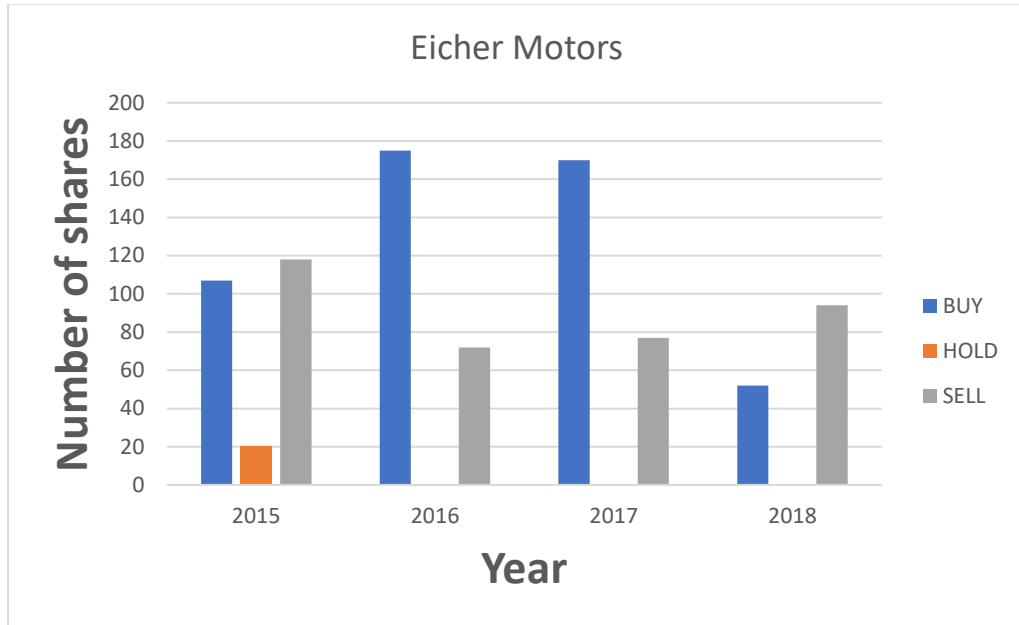


Time Period	BUY	HOLD	SELL	Grand Total
2015				
Qtr1				
Jan		20		20
Feb			19	19
Mar			21	21
Qtr2				
Apr			19	19
May		10	10	20
Jun		22		22
Qtr3				
Jul		23		23
Aug		15	6	21
Sep			20	20
Qtr4				
Oct		9	11	20
Nov		19		19
Dec		16	6	22
2016				
Qtr1				
Jan		11	9	20
Feb			21	21
Mar			20	20
Qtr2				
Apr		17	1	18
May		22		22
Jun		22		22
Qtr3				
Jul		20		20
Aug		22		22
Sep		20		20

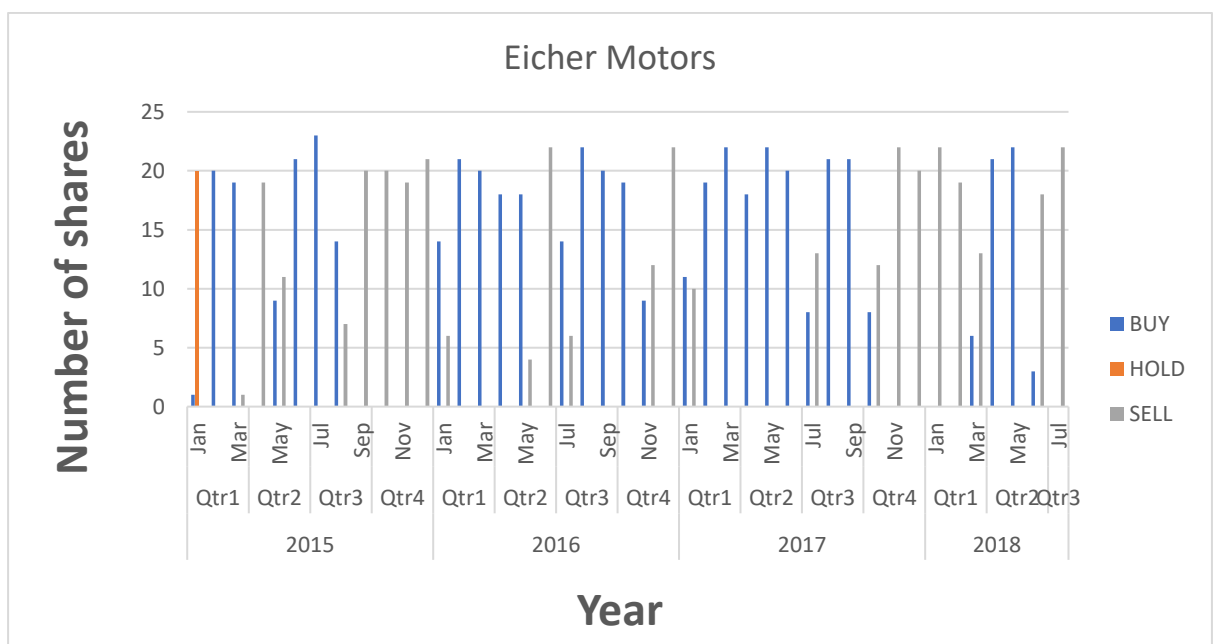
Qtr4				
Oct	7	12	19	
Nov		21	21	
Dec		22	22	
2017				
Qtr1				
Jan	10	11	21	
Feb	19		19	
Mar	22		22	
Qtr2				
Apr	11	7	18	
May	21	1	22	
Jun	8	13	21	
Qtr3				
Jul		21	21	
Aug	16	4	20	
Sep	21		21	
Qtr4				
Oct	20		20	
Nov	22		22	
Dec	14	5	19	
2018				
Qtr1				
Jan	16	6	22	
Feb	3	16	19	
Mar		19	19	
Qtr2				
Apr		21	21	
May	13	9	22	
Jun	7	14	21	
Qtr3				
Jul	22		22	
Grand Total	500	20	365	885

Eicher Motors:

Below is the table and chart for variation of signal based on dates:



Year	BUY	HOLD	SELL	Grand Total
2015	107	20	118	245
2016	175		72	247
2017	170		77	247
2018	52		94	146
Grand Total	504	20	361	885

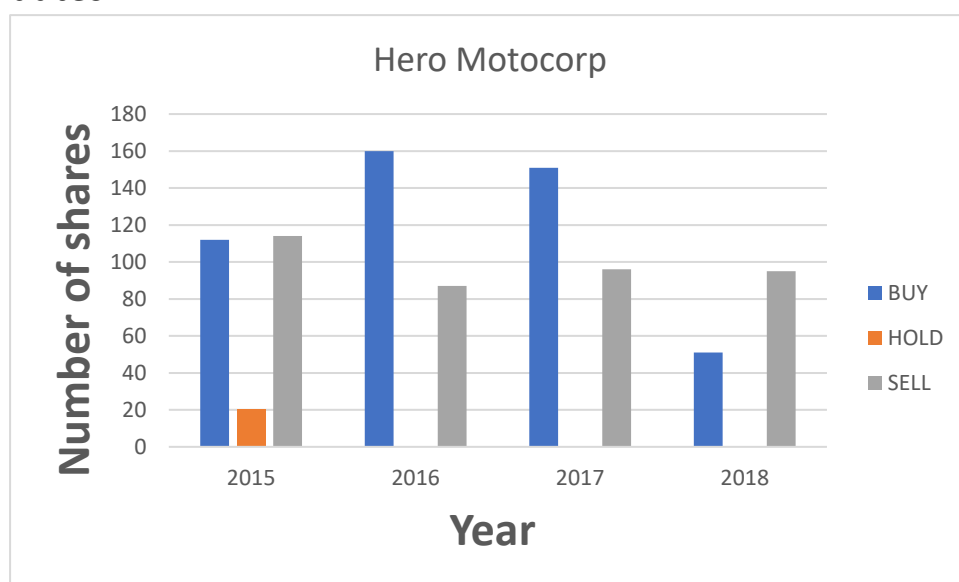


Time Period	BUY	HOLD	SELL	Grand Total
2015	107	20	118	245
Qtr1	40	20	1	61
Jan	1	20		21
Feb	20			20
Mar	19		1	20
Qtr2	30		30	60
Apr			19	19
May	9		11	20
Jun	21			21
Qtr3	37		27	64
Jul	23			23
Aug	14		7	21
Sep			20	20
Qtr4			60	60
Oct			20	20
Nov			19	19
Dec			21	21
2016	175		72	247
Qtr1	55		6	61
Jan	14		6	20
Feb	21			21
Mar	20			20
Qtr2	36		26	62
Apr	18			18
May	18		4	22
Jun			22	22
Qtr3	56		6	62
Jul	14		6	20
Aug	22			22
Sep	20			20
Qtr4	28		34	62
Oct	19			19
Nov	9		12	21
Dec			22	22
2017	170		77	247
Qtr1	52		10	62
Jan	11		10	21
Feb	19			19
Mar	22			22
Qtr2	60			60
Apr	18			18
May	22			22
Jun	20			20

Qtr3	50	13	63	
Jul	8	13	21	
Aug	21		21	
Sep	21		21	
Qtr4	8	54	62	
Oct	8	12	20	
Nov		22	22	
Dec		20	20	
2018	52	94	146	
Qtr1	6	54	60	
Jan		22	22	
Feb		19	19	
Mar	6	13	19	
Qtr2	46	18	64	
Apr	21		21	
May	22		22	
Jun	3	18	21	
Qtr3		22	22	
Jul		22	22	
Grand Total	504	20	361	885

Hero Motocorp:

Below is the table and chart for variation of signal based on dates:

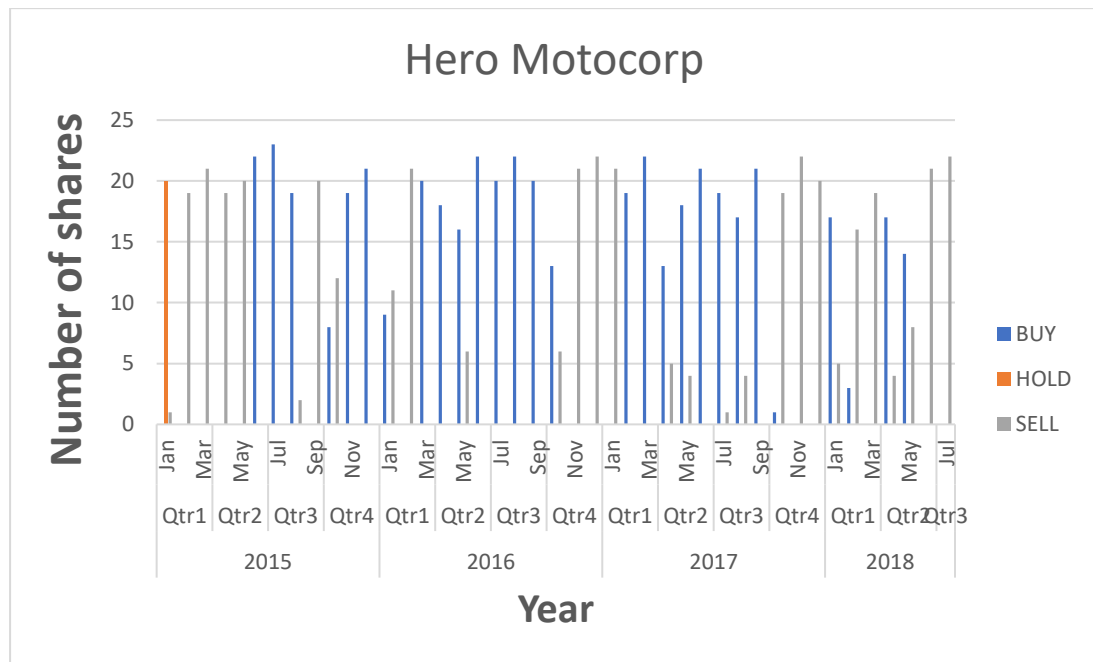


Year	BUY	HOLD	SELL
2015	112	20	114
2016	160		87
2017	151		96

2018

51

95



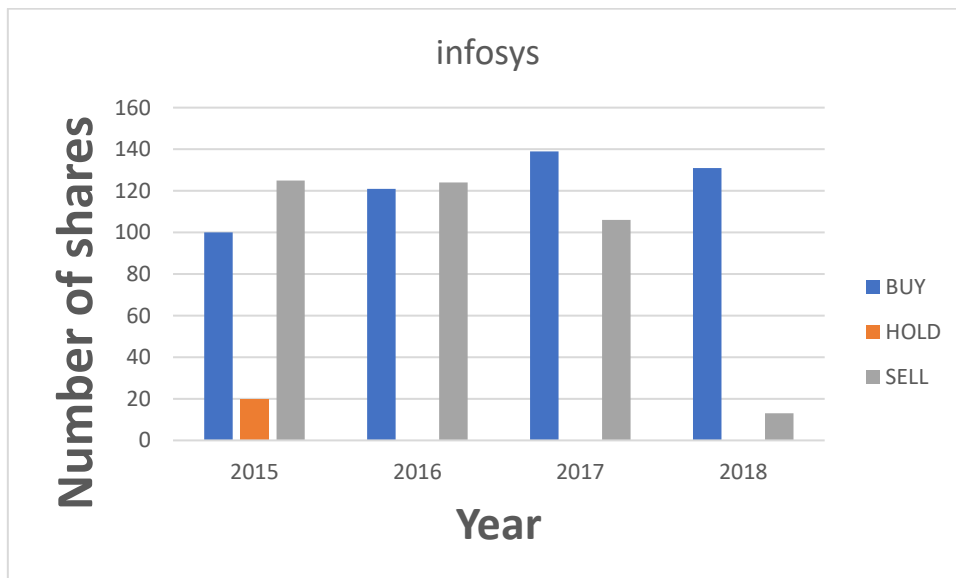
Time Period	BUY	HOLD	SELL	Grand Total
2015				
Qtr1				
Jan		20	1	21
Feb			19	19
Mar			21	21
Qtr2				
Apr			19	19
May			20	20
Jun	22			22
Qtr3				
Jul	23			23
Aug	19		2	21
Sep			20	20
Qtr4				
Oct	8		12	20
Nov	19			19
Dec	21			21
2016				
Qtr1				
Jan	9		11	20
Feb			21	21
Mar	20			20
Qtr2				
Apr	18			18

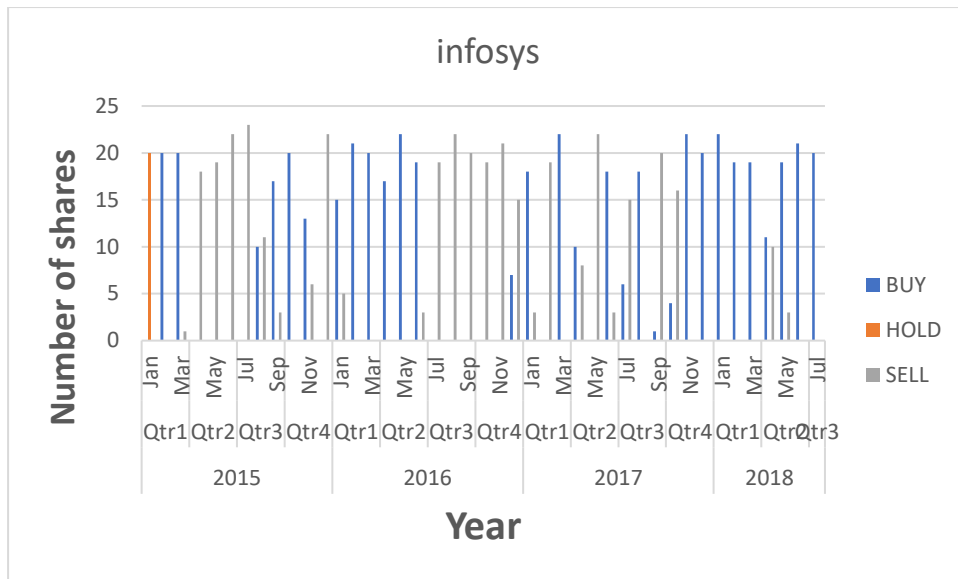
May	16	6	22
Jun	22		22
Qtr3			
Jul	20		20
Aug	22		22
Sep	20		20
Qtr4			
Oct	13	6	19
Nov		21	21
Dec		22	22
2017			
Qtr1			
Jan		21	21
Feb	19		19
Mar	22		22
Qtr2			
Apr	13	5	18
May	18	4	22
Jun	21		21
Qtr3			
Jul	19	1	20
Aug	17	4	21
Sep	21		21
Qtr4			
Oct	1	19	20
Nov		22	22
Dec		20	20
2018			
Qtr1			
Jan	17	5	22
Feb	3	16	19
Mar		19	19
Qtr2			
Apr	17	4	21
May	14	8	22
Jun		21	21
Qtr3			
Jul		22	22
Grand Total	474	20	392
			886

Infosys:

Below is the table and chart for variation of signal based on dates:

Year	BUY	HOLD	SELL	Grand Total
2015	100	20	125	245
2016	121		124	245
2017	139		106	245
2018	131		13	144
Grand Total	491	20	368	879





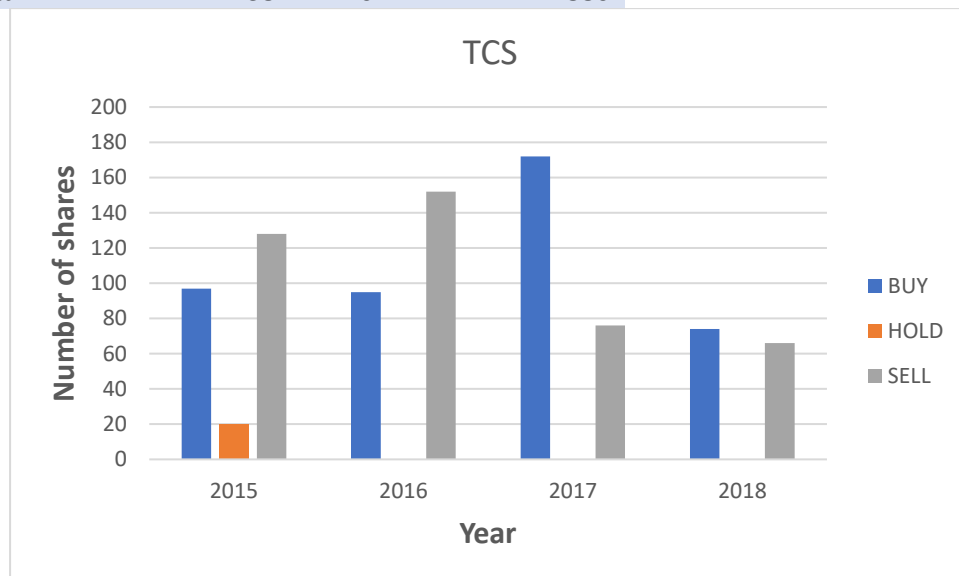
Time Period	BUY	HOLD	SELL	Grand Total
2015				
Qtr1				
Jan		20		20
Feb		20		20
Mar		20	1	21
Qtr2				
Apr			18	18
May			19	19
Jun			22	22
Qtr3				
Jul			23	23
Aug		10	11	21
Sep		17	3	20
Qtr4				
Oct		20		20
Nov		13	6	19
Dec			22	22
2016				
Qtr1				
Jan		15	5	20
Feb		21		21
Mar		20		20
Qtr2				
Apr		17		17
May		22		22
Jun		19	3	22
Qtr3				
Jul			19	19

Aug		22	22
Sep		20	20
Qtr4			
Oct		19	19
Nov		21	21
Dec	7	15	22
2017			
Qtr1			
Jan	18	3	21
Feb		19	19
Mar	22		22
Qtr2			
Apr	10	8	18
May		22	22
Jun	18	3	21
Qtr3			
Jul	6	15	21
Aug	18		18
Sep	1	20	21
Qtr4			
Oct	4	16	20
Nov	22		22
Dec	20		20
2018			
Qtr1			
Jan	22		22
Feb	19		19
Mar	19		19
Qtr2			
Apr	11	10	21
May	19	3	22
Jun	21		21
Qtr3			
Jul	20		20
Grand Total	491	20	368
			879

TCS:

Below is the table and chart for variation of signal based on dates:

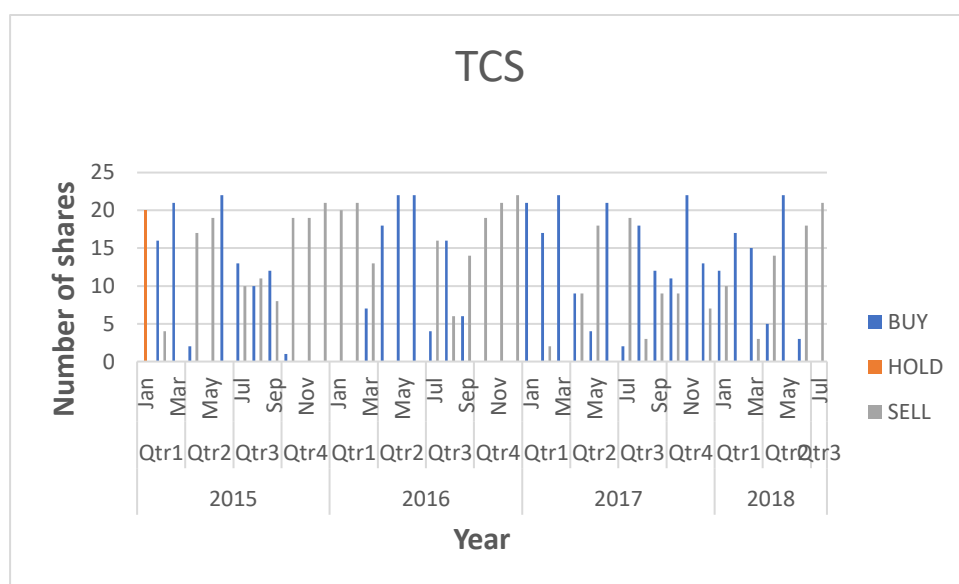
Year	BUY	HOLD	SELL	Grand Total
2015	97	20	128	245
2016	95		152	247
2017	172		76	248
2018	74		66	140
Grand Total	438	20	422	880



Time Period	BUY	HOLD	SELL	Grand Total
2015				
Qtr1				
Jan		20		20
Feb	16		4	20
Mar	21			21
Qtr2				
Apr	2		17	19

May		19	19
Jun	22		22
Qtr3			
Jul	13	10	23
Aug	10	11	21
Sep	12	8	20
Qtr4			
Oct	1	19	20
Nov		19	19
Dec		21	21
2016			
Qtr1			
Jan		20	20
Feb		21	21
Mar	7	13	20
Qtr2			
Apr	18		18
May	22		22
Jun	22		22
Qtr3			
Jul	4	16	20
Aug	16	6	22
Sep	6	14	20
Qtr4			
Oct		19	19
Nov		21	21
Dec		22	22
2017			
Qtr1			
Jan	21		21
Feb	17	2	19
Mar	22		22
Qtr2			
Apr	9	9	18
May	4	18	22
Jun	21		21
Qtr3			
Jul	2	19	21
Aug	18	3	21
Sep	12	9	21
Qtr4			
Oct	11	9	20
Nov	22		22
Dec	13	7	20
2018			
Qtr1			
Jan	12	10	22
Feb	17		17

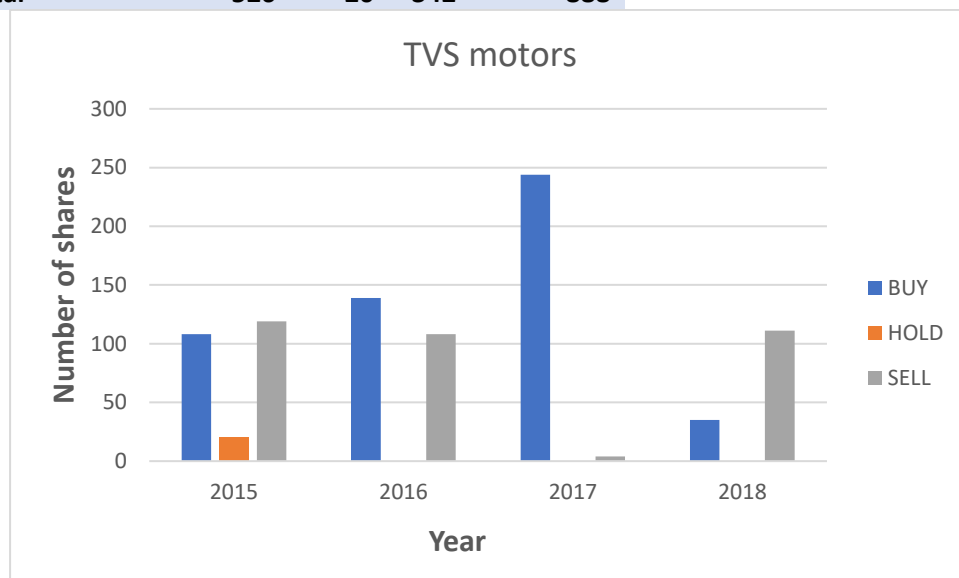
Mar	15	3	18
Qtr2			
Apr	5	14	19
May	22		22
Jun	3	18	21
Qtr3			
Jul		21	21
Grand Total	438	20	422
			880



TVS Motors:

Below is the table and chart for variation of signal based on dates:

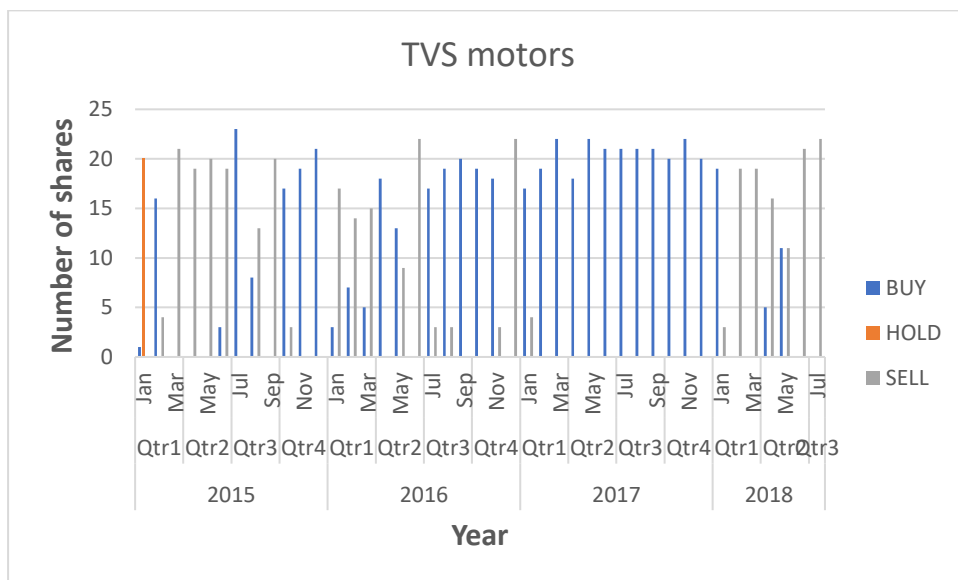
Year	BUY	HOLD	SELL	Grand Total
2015	108	20	119	247
2016	139		108	247
2017	244		4	248
2018	35		111	146
Grand Total	526	20	342	888



Time Period	BUY	HOLD	SELL	Grand Total
2015				
Qtr1				
Jan	1	20		21
Feb	16		4	20
Mar			21	21
Qtr2				
Apr			19	19
May			20	20
Jun	3		19	22
Qtr3				
Jul	23			23

Aug	8	13	21
Sep		20	20
Qtr4			
Oct	17	3	20
Nov	19		19
Dec	21		21
2016			
Qtr1			
Jan	3	17	20
Feb	7	14	21
Mar	5	15	20
Qtr2			
Apr	18		18
May	13	9	22
Jun		22	22
Qtr3			
Jul	17	3	20
Aug	19	3	22
Sep	20		20
Qtr4			
Oct	19		19
Nov	18	3	21
Dec		22	22
2017			
Qtr1			
Jan	17	4	21
Feb	19		19
Mar	22		22
Qtr2			
Apr	18		18
May	22		22
Jun	21		21
Qtr3			
Jul	21		21
Aug	21		21
Sep	21		21
Qtr4			
Oct	20		20
Nov	22		22
Dec	20		20
2018			
Qtr1			
Jan	19	3	22
Feb		19	19
Mar		19	19
Qtr2			
Apr	5	16	21
May	11	11	22

Jun			21	21
Qtr3				
Jul			22	22
Grand Total	526	20	342	888



Result of Question:

Question 1.

1. Default format for "Date" Column is used with data type "Date" for all 6 stocks; to do operations like ascending, descending etc.
2. Using column "Date" Created bajaj1, eicher1, hero1, infosys1, tcs1 and tvs1.
3. For all above tables data type used for "date" column as "Date" because using "date" as data type "Text" yields incorrect results
4. Remove top 50 rows for all above tables as Moving Averages for these rows is not applicable or incalculable

Question 2

1. Created master table using inner join query on "bajaj auto" , "tcs" , "tvs motors" , "infosys" , "eicher motors" and "hero motocorp".

Question 3

1. Created column "signal" using column "20 Day MA" and "50 Day MA". Logic for Signal:
 - a. If there is a trend change as compared to previous day then there is change of "Sell" or "Buy" signal
 - b. If "20 Day MA" is greater than "50 Day MA" in trend change then signal is "Buy".
 - c. If "20 Day MA" is smaller than "50 Day MA" in trend change then signal is "Sell"

Question 4

1. Created a user defined function which takes "date" as input and gives signal as output as Buy/Sell/Hold.
2. For this function, as mentioned in assumption, input is expected in "Date" format as mentioned in question as well

Analysis:

- From the above data tables and graphs we can see that shares of all companies were on hold on January of 2015.

- The highest number of shares bought are of TVS motors(526 shares) and the least bought of TCS(438 shares).
- The highest number of sold shares are of TCS(422 shares) and least sold for TVS Motors(342 shares).
- Most shares of TVS Motors,Infosys,Bajaj Auto and TCS were bought in 2017 and for Eicher Motors and Hero Motocorp in 2016.
- Most shares of Bajaj Auto,Eicher motors,Hero Motocorp,TVS motors were sold in 2015 and for TCS,Infosys in 2016.