

### Question 5:

Write a brief summary of the results obtained and what inferences you can draw from the analysis performed. (Less than 250 words to be submitted in a pdf file)

### Answer 5:

1. We created a master table. This table contains closing price of all the 6 six stocks. If no transaction happened on that date, it will be shown as null for that stock.
2. We must create a date master table then only try to join tables based on the date columns. Otherwise there will be wrong results.

Converting date fields into sql date format will really helpful in performing any date relation queries, aggregation, sorting etc.

3. To plot the trend we are using closing price.
4. On any transaction day (D), we are trying to predict buy, sell and hold strategy of the stock based on the past performance of the share. Past means upto D-1 day.
5. This prediction is done using time series and not regular regression model. Because timeseries data has completely different nature like.
  - A. Each time t data has some kind of influence on t+1 (so they are not independent). Time is only explainable variable in timeseries based prediction models.
  - B. Prediction does not depend upon other parameters but the same parameters. Each parameter is independent here unlike linear regression. In our case closing price of today depends closing prices of previous days.
  - C. Chronology of dates matters unlike regular regression.
6. How much influence previous closing prices has on today's closing price? To determine this is really complex. For this we need to use models like ARMA. For our exercise we decided 20 days means short time and 50 days long terms.
7. In this project on particular date we are taking average of last 19 day's closing price and say it is 20 MA (moving average). To calculate long term average on particular date we are taking average of last 49 day's closing price and say it is 50 MA.
8. On any particular day If 20MA price crosses above 50MA price it means there is a demand of this share and it is going to pick up in longer run so buy now.
9. On any particular If 20MA price goes below 50MA price it means there is a supply of this share and it is going to fall in longer run so sell now.
10. When 20MA= 50MA then it is wait and watch, because we donot know in what direction it can go from here.
11. **We created a function for Bajaj stock which will predict whether buy or sell or hold based on the date input.**

