

## Task :

- 1) Attached Bank Nifty time series data of 1 min.
- 2) Backtest using Python.
- 3) Convert data into 15 min time frame.
- 4) Intraday trades are to be taken and mandatorily closed in the same day.
- 5) Trade starts only after 2nd 15-minute candle (9:30 to 9:45)
- 6) If candle closes above VWAP, we will buy and if candle closes below VWAP, we will sell
- 7) Example: If 2nd candle is closing above VWAP, we will buy 1 tick above candle high and Stop Loss (SL) will be 1 tick below candle low.
- 8) If stop loss is not hit, then all trades are exited at 3:15 PM.
- 9) Calculate the overall profit and loss.
- 10) Segregate the Profit and Loss Year wise and Day wise
- 11) Suggest best performing Year.
- 12) Use VWAP Code :

```
def calculateVwap(data):  
    data['TP'] = (data['High']+data['Low']+data['Close'])/3.0  
    data['TradedValue'] = data['TP']*data['Volume']  
    data['CumVolume'] = data['Volume'].cumsum()  
    data['CumTradedValue'] = data['TradedValue'].cumsum()  
    data['VWAP'] = data['CumTradedValue'] /data['CumVolume']  
    return data
```

```
df = df.groupby('dt').apply(calculateVwap)
```