Import Pandas library to import and use Dataset in the csv format.

```
import pandas as pd
```

```
from google.colab import drive
drive.mount('/content/drive')
```

```
Mounted at /content/drive
```

Read the csv file and Extract the data.

```
df=pd.read_csv('/content/drive/MyDrive/Colab Notebooks/BANKNIFTY.csv',index_col=False)
df.head(20)
```

	Organization	Date	Time	Open	High	Low	Close	Volume	Turnover
0	BANKNIFTY	01-01-2020	09:16	32242.6	32295.8	32220.9	32292.0	0	0
1	BANKNIFTY	01-01-2020	09:17	32296.3	32303.3	32283.9	32286.4	0	0
2	BANKNIFTY	01-01-2020	09:18	32288.3	32290.8	32279.3	32279.6	0	0
3	BANKNIFTY	01-01-2020	09:19	32282.9	32296.3	32270.7	32292.6	0	0
4	BANKNIFTY	01-01-2020	09:20	32292.4	32312.1	32292.4	32300.9	0	0
5	BANKNIFTY	01-01-2020	09:21	32298.7	32303.4	32288.2	32293.5	0	0
6	BANKNIFTY	01-01-2020	09:22	32295.0	32299.4	32287.4	32288.9	0	0
7	BANKNIFTY	01-01-2020	09:23	32289.4	32297.6	32286.2	32295.6	0	0
8	BANKNIFTY	01-01-2020	09:24	32295.4	32313.3	32295.4	32310.2	0	0
9	BANKNIFTY	01-01-2020	09:25	32314.3	32318.4	32302.5	32309.6	0	0
10	BANKNIFTY	01-01-2020	09:26	32308.3	32313.7	32302.9	32313.7	0	0
11	BANKNIFTY	01-01-2020	09:27	32311.7	32324.2	32311.7	32321.8	0	0
12	BANKNIFTY	01-01-2020	09:28	32323.0	32325.3	32313.7	32317.3	0	0

Set initial values and timings of trade transactions.

```
BUY=False
SELL=False
buyorder,stoplossbuy,stoploss_sell,longentry,shortentry,stopentry,stoplosshit,cumprofit,co
exittime="15:30"
notradetime="15:25"
entrytimearr=["09:16",'09:17','09:18','09:19','09:20','09:21','09:22','09:23','09:24','09:
entrytime0="09:16"
entrytime1="09:30"
entrytime2="09:25"
entrytime3="09:20"
```

Calculate and initialize the trade at given time intervals.

stoplossbuy=minimum(Low value in the entry time interval)

stoploss_sell=maximum(High value in the entry time interval)

Buy=True when High value of the day is more than the stoploss_Sell and time interval at that point is not a no_trade_time rather it is in entrytime interval

Sell=True when Low value of the day is less than the stoplossbuy and time interval at that point is not a no_trade_time rather it is in entrytime interval

cumprofit=profit each day made in camparison to the close value at the end of the day trade irrespective of the status as buy/sell.

total cummulative profit for the year = round(cumprofit,2) *Total count of trade during the trade* = count *Trade rate* = (cummulative profit over the year*100)/number of trade in a year

```
for i in range (len(df['Date'])):
  if entrytime0 in df['Time'][i]:
        print("\nDATE: ", df['Date'][i])
        lowtemp = []
        j = i
        while (df['Date'][j] == df['Date'][i]):
            if (df['Time'][j] not in entrytimearr): #Check for entry time
                break
            # print(df['Low'][j])
            lowtemp.append(df['Low'][j])
            j += 1
        #print(lowtemp)
        stoplossbuy = min(lowtemp) #Set the buy value of loss at minimum

        hightemp=[]
        j=i
        while (df['Date'][j] == df['Date'][i]):
            if (df['Time'][j] not in entrytimearr): #Check for entry time
                break
            # print(df['High'][j])
            hightemp.append(df['High'][j])
```

```
            hightemp.append(df['High'][j])
            j += 1
        #print(hightemp)
        stoploss_sell=max(hightemp) #Set the sell value of loss at maximum

        print("Stop Loss Buy: ",str(stoplossbuy),", Stop Loss Sell: ",str(stoploss_sell))

#print(df['High'].values[i], df['Low'].values[i])
if (df['High'].values[i]>stoploss_sell and BUY==False and buyorder==0 and notradetime no
    if (df['Time'][i] not in entrytimearr):
      pass
    print("Order for Buy placed at = "+df["Date"][i])
    BUY=True
    buyorder = 1
    count+=1

if (df['Low'].values[i] < stoplossbuy and SELL==False and buyorder==0 and notradetime no
    if (df['Time'][i] not in entrytimearr):
      pass
    print("Order for Sell placed  at = " + df["Date"][i])
    SELL=True
    buyorder=1
    count+=1

if (exittime in df["Time"][i]): #set the values back to initial for next day evaluation
    if(BUY==True and stoplosshit==0):
        print("Sell at exit time = " + df["Date"][i])
        BUY=False
        buyorder = 0
        cumprofit=cumprofit+df["Close"][i]-stoploss_sell #Calculate buy Cumulative Profi
        print("cumprofit " + str(cumprofit))
        stoplosshit = 0
    if (SELL == True and stoplosshit==0):
        print("Buy at exit time = " + df["Date"][i])
        SELL = False
        buyorder = 0
        cumprofit = cumprofit + stoplossbuy-df["Close"][i] #Calculate Sell Cumulative Pr
        print("cumprofit " + str(cumprofit))
        stoplosshit = 0

if SELL==True and df["High"][i]>stoploss_sell and stoplosshit==0: #Check for Stop Loss H
    print("Stop loss hit Sell at " + df["Date"][i])
    stoplosshit=1
if BUY==True and df["Low"][i]<stoplossbuy and stoplosshit==0: #Check for Stop Loss Hit B
    print("Stop loss hit Buy at "+ df["Date"][i])
    stoplosshit = 1

if stoplosshit==1 and BUY == True:
    BUY=False
    buyorder = 0
    stoplosshit = 0
    cumprofit=cumprofit- abs(stoploss_sell-stoplossbuy)
    print("Cumprofit "+str(cumprofit))
    print("Cumprofit date " +df["Date"][i])
if stoplosshit == 1 and SELL == True:
    SELL = False
```

```
        SELL = False
        buyorder = 0
        stoplosshit = 0
        cumprofit = cumprofit - abs(stoploss_sell-stoplossbuy)
        print("Cumprofit " + str(cumprofit))
        print("Cumprofit date " + df["Date"][i])



print("\n----------------------------------------------------------\n"*2)
print("Total Cummulative Profit: ",round(cumprofit,2)) #Cummulative Profit for the Year
print("Total trade in a year: ",count) #Total Trade for the Year
print("Annual rate of Trade: ",round(cumprofit*100/count)) #Trade Rate for the year
```

```
Sell at exit time = 22-12-2020
cumprofit -6047.0000000000255

DATE:  23-12-2020
Stop Loss Buy:  29459.1 , Stop Loss Sell:  29639.1
Order for Sell placed  at = 23-12-2020
Stop loss hit Sell at 23-12-2020
Cumprofit -6227.0000000000255
Cumprofit date 23-12-2020
Order for Buy placed at = 23-12-2020
Sell at exit time = 23-12-2020
cumprofit -5932.200000000023
Order for Buy placed at = 23-12-2020

DATE:  24-12-2020
Stop Loss Buy:  30007.8 , Stop Loss Sell:  30250.2
Sell at exit time = 24-12-2020
cumprofit -5807.700000000023
Order for Buy placed at = 24-12-2020

DATE:  28-12-2020
Stop Loss Buy:  30538.2 , Stop Loss Sell:  30774.6
Sell at exit time = 28-12-2020
cumprofit -5665.90000000002
Order for Buy placed at = 28-12-2020

DATE:  29-12-2020
Stop Loss Buy:  31005.0 , Stop Loss Sell:  31267.2
Stop loss hit Buy at 29-12-2020
Cumprofit -5928.10000000002
Cumprofit date 29-12-2020
Order for Buy placed at = 29-12-2020
Sell at exit time = 29-12-2020
cumprofit -5845.700000000023
Order for Buy placed at = 29-12-2020

DATE:  30-12-2020
Stop Loss Buy:  31130.1 , Stop Loss Sell:  31510.3
Stop loss hit Buy at 30-12-2020
Cumprofit -6225.900000000023
Cumprofit date 30-12-2020
Order for Sell placed  at = 30-12-2020
Buy at exit time = 30-12-2020
cumprofit -6355.100000000024

DATE:  31-12-2020
```

```
Stop Loss Buy:  31088.1 , Stop Loss Sell:  31352.1
Order for Buy placed at = 31-12-2020
Sell at exit time = 31-12-2020
cumprofit -6469.400000000023

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Total Cummulative Profit:  -6469.4
Total trade in a year:  501
Annual rate of Trade:  -1291
```

Conclusion

The monthly profit seems to be consistent, where when we have bigger volatility days, profits are really huge. The yearly profits, seems to be a great result