A Project
On
STOCK PRICE PREDICTION

PROBLEM:

Many stock traders may not know where the stock price would settle by the end of that day. Without knowing that, there may be chance to perform some wrong strategies which results in losing their amount.With the help of this model, we can predict the closing price of a stock by giving the required inputs(Open Price,High Price,Low Price).

OBJECTIVE:

The main objective of my project is to predict the closing price of stock before the end of the day.

APPROACH:

I have collected the dataset from kaggle.com.I have used multiple regression technique to predict the required output. I have deployed the code using streamline, python inbuilt library. We can give our inputs through that interface.

RESOURCE:

I have collected this dataset from kaggle.

INPUT:

Open : Price where the stock has opened on that day.
High : highest traded price of the stock on that particular day.
Low : lowest traded price of the stock on that particular day.
Day : name of the day that we want to predict.

OUTPUT:

Close :Price where the stock has closed on that day.

ALGORITHM:

Multiple Linear Regression:

In multiple linear regression , we have two or more independent variables and one dependent variables. As I have more than two inputs, I opted for this regression technique.

STEPS INVOLVED:

1.Reading the data
2.Understanding the data
3.Pre-processing
4.Fitting the regression line
5.Training the model
6.Predicting the output

PROCEDURE OTHER THAN MENTIONED ABOVE:

I have taken the day that the user has given as input and pulled out the data according to that day from the original dataset and made an sub-dataset. I have written this code on my own.

CODE:

```
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
import streamlit as st
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
def check(a,b,c,x):
    if (b>=a and c<=a):
        df=pd.read_csv('apple.csv')
        day_u=df['Day'].unique()
        day_l=[]
        for i in day_u:
            day_l+=[i.lower()]
        if (x.lower() in day_l):
            openi=[]
            highi=[]
            lowi=[]
            closei=[]
            for j in range(len(df.index)):
                if (x.lower()==df.loc[j].Day.lower()):
                    openi+=[df.loc[j].Open]
                    highi+=[df.loc[j].High]
                    lowi+=[df.loc[j].Low]
                    closei+=[df.loc[j].Close]

 data=pd.DataFrame({"Open":openi,"High":highi,"Low":lowi,"Close":closei})
            new_data=pd.DataFrame({"Open":a,"High":b,"Low":c},index=[0])
            pred(data,new_data)
        else:
            st.success("{} is Holiday".format(x.title()))
    else:
        st.success("Please Give Valid Data!!!Make sure that High Price
must be equal or greater than Open Price and Low price must be equal or
less than Open Price")

def pred(data,new_data):
    x=data[['Open','High','Low']]
    y=data['Close']
    x_train,x_test,y_train,y_test=train_test_split(x,y,random_state=0)
    regressor=LinearRegression()
    regressor.fit(x_train,y_train)
    pred=regressor.predict(new_data)
    st.success('Predicted Closing Price:{}'.format(pred[0]))
def main():
    st.title("Stock Closing Price Prediction - APPLE")

    open_price=st.number_input("Open Price")
```

```
    high_price=st.number_input("High Price")
    low_price=st.number_input("Low Price")
    day=st.text_input("Day")

    if st.button("Predict"):
       check(open_price,high_price,low_price,day)
main()
```

EXECUTION:

Open the path of the program in command prompt and then type 'streamlit run filename.py' command.

OUTPUT:

CONCLUSION:

By using the above model, we can predict the closing price of the stock before the end of the day by giving the required inputs.This model may help for investors who want to invest on that stock or intraday traders who want to trade that stock.So by this model the user may know the closing price so that he can choose the right decision.

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