Description : This program attempts to predict the future price of the stock.

In [4]:

```
#Import The Libraries.

import pandas as pd
import numpy as np
from sklearn.ensemble import RandomForestRegressor
import matplotlib.pyplot as plt
```

In [ ]:

```
#Importing the dataset.

df = pd.read_csv(r"C:\Users\Ebad\Downloads\stock_data.csv")
```

In [9]:

```
#Cleaning Data.

df = df.dropna()
```

In [ ]:

```
#Data Preview.

df
```

Out[ ]:

	Date	Open	High	Low	Close	Volume	Name
0	1/3/2006	39.69	41.22	38.79	40.91	24232729	AABA
1	1/4/2006	41.22	41.90	40.77	40.97	20553479	AABA
2	1/5/2006	40.93	41.73	40.85	41.53	12829610	AABA
3	1/6/2006	42.88	43.57	42.80	43.21	29422828	AABA
4	1/9/2006	43.10	43.66	42.82	43.42	16268338	AABA
...	...	...	...	...	...	...	...
3014	12/22/2017	71.42	71.87	71.22	71.58	10979165	AABA
3015	12/26/2017	70.94	71.39	69.63	69.86	8542802	AABA
3016	12/27/2017	69.77	70.49	69.69	70.06	6345124	AABA
3017	12/28/2017	70.12	70.32	69.51	69.82	7556877	AABA
3018	12/29/2017	69.79	70.13	69.43	69.85	6613070	AABA

3019 rows × 7 columns

In [12]:

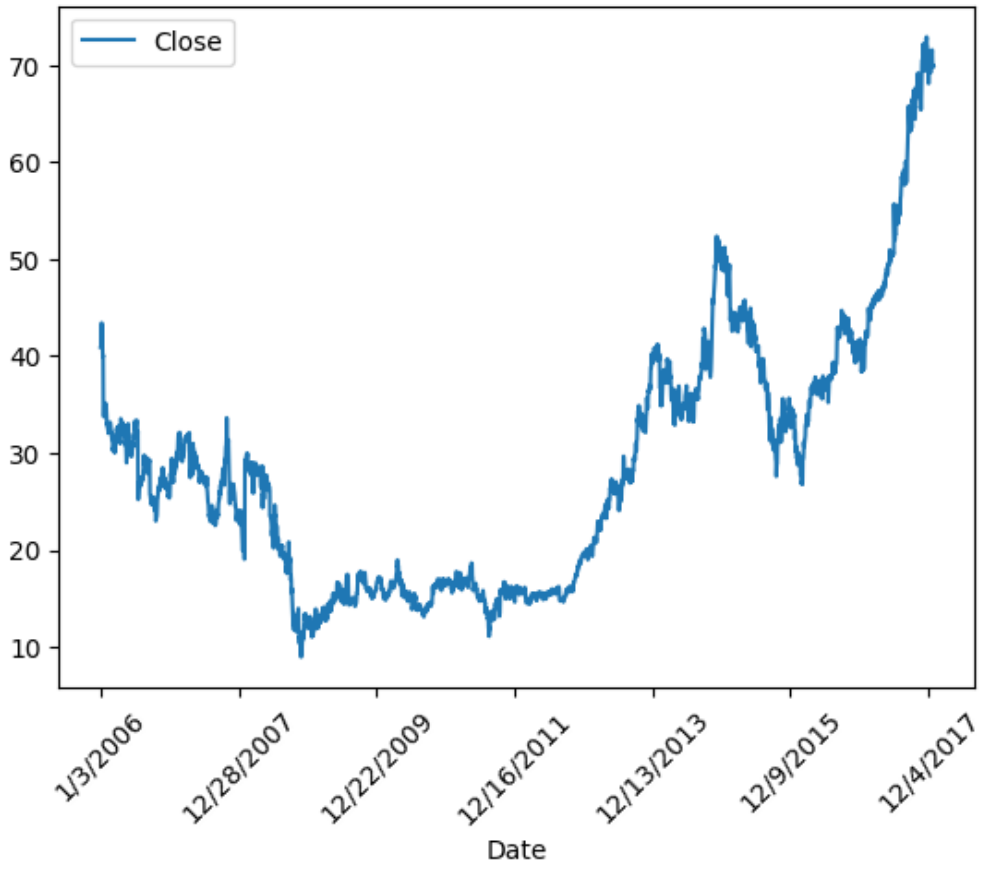
```
#Show the data visually.

df.plot(x="Date", y="Close")
plt.xticks(rotation = 45)
```

Out[12]:

```
(array([-500.,    0.,  500., 1000., 1500., 2000., 2500., 3000., 3500.]),
 [Text(-500.0, 0, '1/7/2016'),
  Text(0.0, 0, '1/3/2006'),
  Text(500.0, 0, '12/28/2007'),
  Text(1000.0, 0, '12/22/2009'),
  Text(1500.0, 0, '12/16/2011'),
```

```
  Text(2000.0, 0, '12/13/2013'),
  Text(2500.0, 0, '12/9/2015'),
  Text(3000.0, 0, '12/4/2017'),
  Text(3500.0, 0, '')])
```



In [ ]:

```
#Create the model.

model = RandomForestRegressor()
```

In [14]:

```
#Train the model.

X = df[['Open', 'High', 'Low', 'Volume']]
X = X[:int(len(df)-1)]
y = df['Close']
y = y[:int(len(df)-1)]
model.fit(X,y) #Training the model.
```

Out[14]:

▾ RandomForestRegressor [i] [?]

```
RandomForestRegressor()
```

In [15]:

```
#Test the model
predictions = model.predict(X)
print("The model score is :", model.score(X,y))
```

```
The model score is : 0.9999385472929285
```

The best score is 1, so this model did very well in training the dataset

In [17]:

```
#Make the predictions.T
```

```
new_data = df[['Open', 'High', 'Low', 'Volume']].tail(1)
prediction = model.predict(new_data)
print("The model predicts the las row or day to be: ", prediction)
print("The actual value is: ", df[['Close']].tail(1).values[0][0])
```

```
The model predicts the las row or day to be:  [69.8247]
The actual value is:  69.85
```