TRADING STRATEGY

The trading strategy we have chosen is CCI Correction.

CCI (Commodity Channel Index) provides a measure of the momentum of the market. CCI Correction is based on following the major trend of the market - we buy when the market is bullish and sell when it is bearish. We use 50-day CCI to gauge long-term market sentiment, and 20-day CCI for short-term sentiment.

Current Trading Strategy Explanation

1.Selling and Buying points are decide by 20-day CCI i.e. CCI2

2.A bearish bias or bullish bias is derived using 50-day CCI i.e. CCI1

3.Bearish bias gives sell signals and Bullish bias gives buy signals

4.Sell and Buy array points are decided by 20-day CCI i.e. CCI2 after trading bias is known

5. Bullish->buy

6. Bearish->sell

Stock Closing vs Date:


```
In [95]:  plt.plot(YESB_data1['Date'],YESB_data1['Close'])
Out[95]:  [<matplotlib.lines.Line2D at 0x1cb5e962c50>]
```
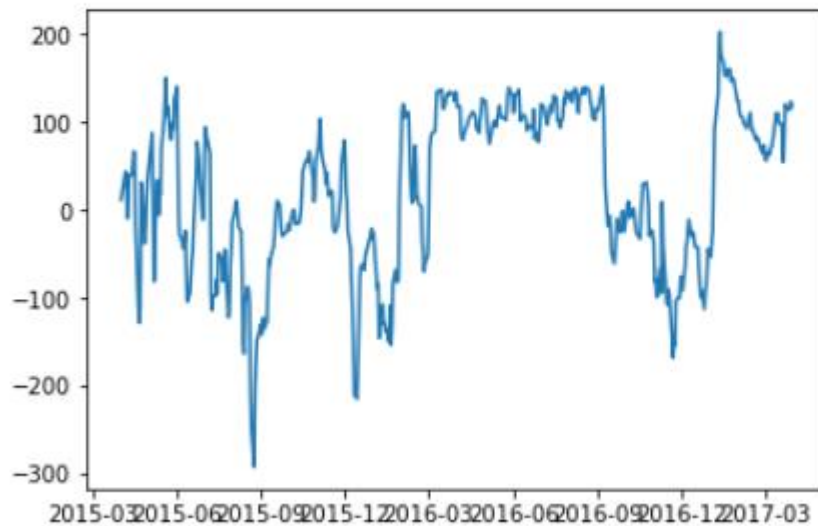
CCI1(50 day CCI) VS Date:

```
]: plt.plot(YESB_data1['Date'],CCI1)
```

```
]: [<matplotlib.lines.Line2D at 0x2040e163400>]
```
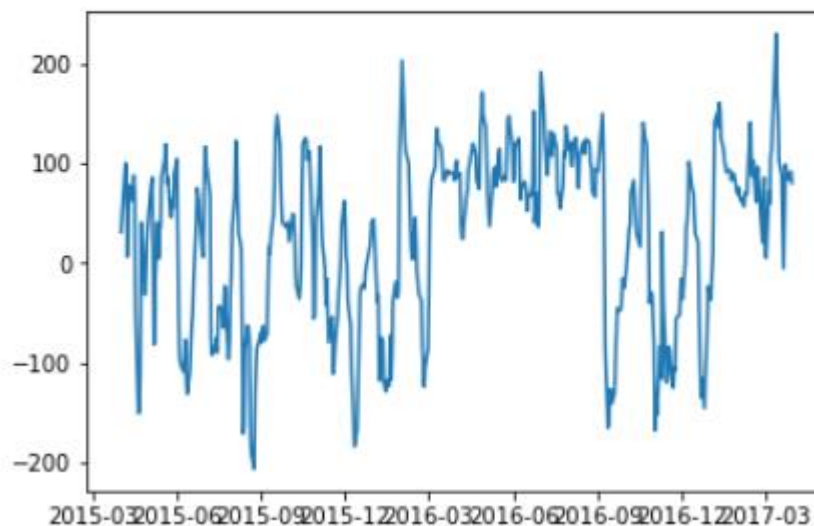

CCI2(20 day CCI vs date):

```
plt.plot(YESB_data2['Date'],CCI2)
```

```
[<matplotlib.lines.Line2D at 0x2040e4912b0>]
```

Explanation of New Trading Strategy

Using CCI correction only leads us to buy during bullish period and leads us to sell during bearish periods. However, it may be beneficial to buy during bearish period and sell during bullish bias.

Therefore, we define a new constraint…

The difference between current price and 50 day moving average (YESB per) and already defined CCI2 value to gauge short term trends

Condition :

Bearish CCI1<-100

```
for i in range(62,91):

    if YESB_per[i]<=-30 and YESB_data2['CCI'][i]>=30:
        buyd=np.append(buyd,i)
        break
```

Bullish CC1>100

```
for i in range(91,110):

    if YESB_per[i]>=30 and YESB_data2['CCI'][i]<=30:
        selld=np.append(selld,i)
        break
```

Thus we now have a condition to sell and buy irrespective of trading bias.

Explanation of reasoning behind constraints

YESB_per is a measure of current market scenario and CCI2 too is a measure of this.

Therefore if the market is in uptrend and momentum value is decreasing it is wise to sell (under some conditions) as in future its value may decrease

If the market is in downtrend and momentum value is increasing it is wise to buy (under some conditions) as in future its value may increase

Portfolio graph using CCI correction:

```python
portfolio_value=plt.plot(YESB_data1['Date'],YESB_data_plot)
plt.xlabel('Date')
plt.ylabel('Value')
```
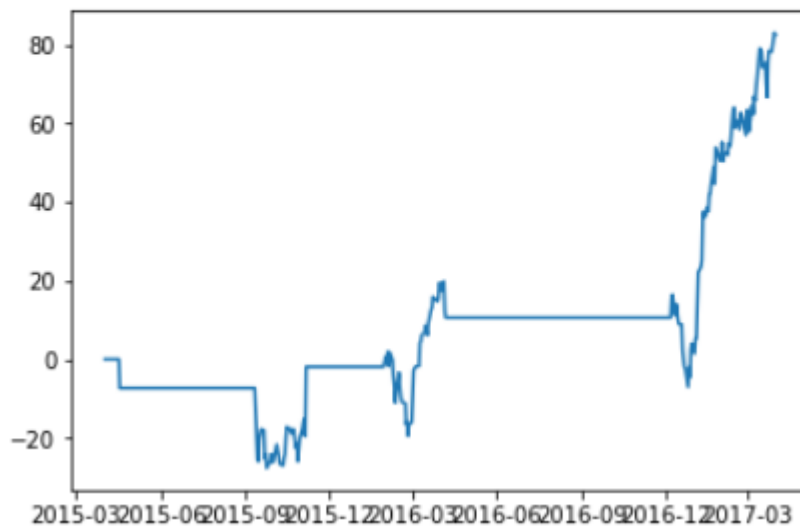
```
Text(0,0.5,'Value')
```
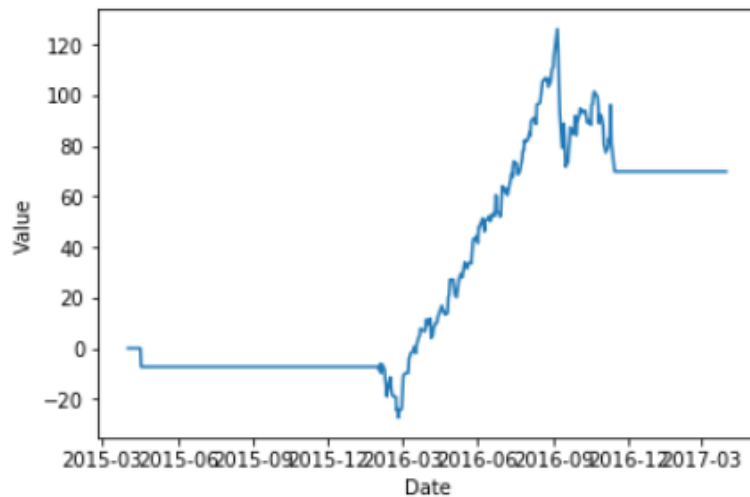

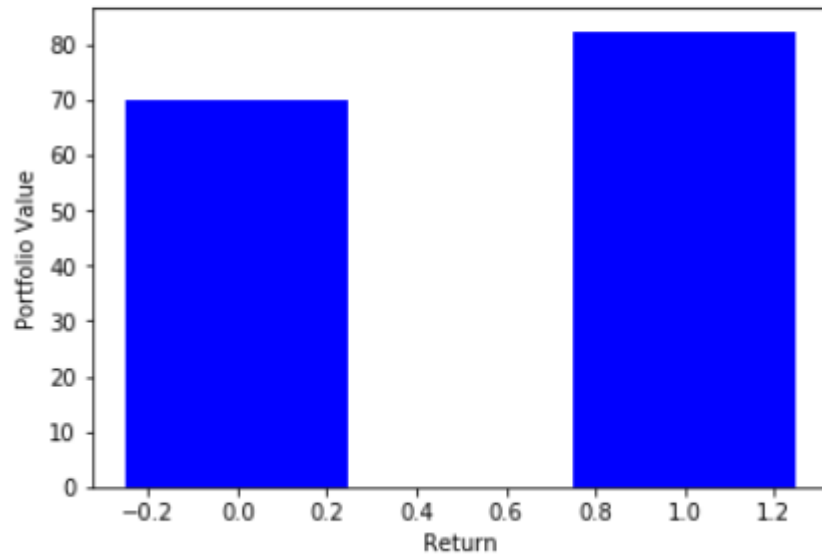**Portfolio Value using CCI correction modified:**

```python
plt.plot(YESB_data1['Date'],YESB_data_plot2)
```

```
[<matplotlib.lines.Line2D at 0x2040f635c88>]
```

Returns due to both strategies

```
data=[Profit1,Profit2]
X = np.arange(2)
plt.bar(X + 0.00, data, color = 'b', width = 0.5)
plt.xlabel('Return')
plt.ylabel('Portfolio Value')
plt.show()
```


Our strategy proved more effective in finding short term trends and therefore gave higher returns...