Week1&2 Exercises in Python

```
In [1]:    #Importing necessary libraries
           import pandas as pd
           from pandas import ExcelWriter
           from pandas import ExcelFile
           import matplotlib.pyplot as plt
```

```
In [2]:    #Loading data into dataframe
           Obama_Ratings = pd.read_excel('obama-approval-ratings.xls')
```
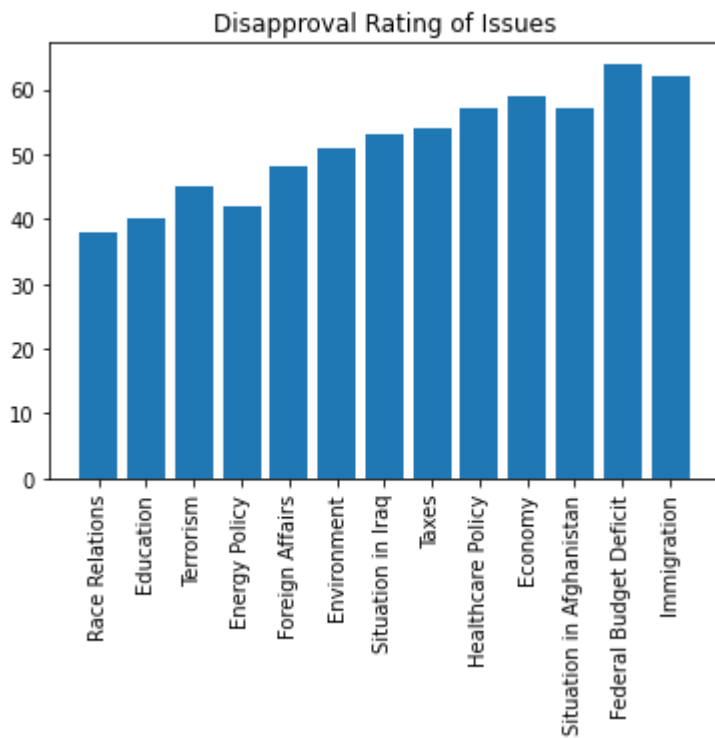
```
In [4]:    Obama_Ratings
```

Out[4]:

	Issue	Approve	Disapprove	None
0	Race Relations	52	38	10
1	Education	49	40	11
2	Terrorism	48	45	7
3	Energy Policy	47	42	11
4	Foreign Affairs	44	48	8
5	Environment	43	51	6
6	Situation in Iraq	41	53	6
7	Taxes	41	54	5
8	Healthcare Policy	40	57	3
9	Economy	38	59	3
10	Situation in Afghanistan	36	57	7
11	Federal Budget Deficit	31	64	5
12	Immigration	29	62	9

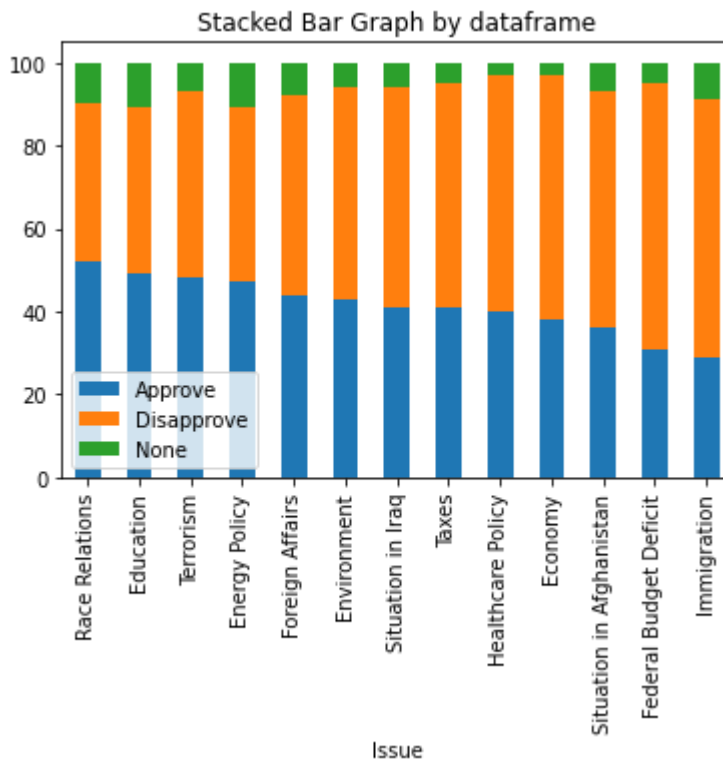## Barchart - Python

```
In [5]:    #Plotting bar chart for Issue and Disapproval ratings
           plt.bar(Obama_Ratings.Issue, Obama_Ratings.Disapprove)
           plt.title('Disapproval Rating of Issues')
           plt.xticks(rotation=90)
           plt.show()
```

Disapproval Rating of Issues

Stacked Bar Chart - Python

```python
#Plotting stacked bar graph for all three variations approval, disapproval and none
Obama_Ratings.plot(x='Issue', kind='bar', stacked=True,
        title='Stacked Bar Graph by dataframe')
```
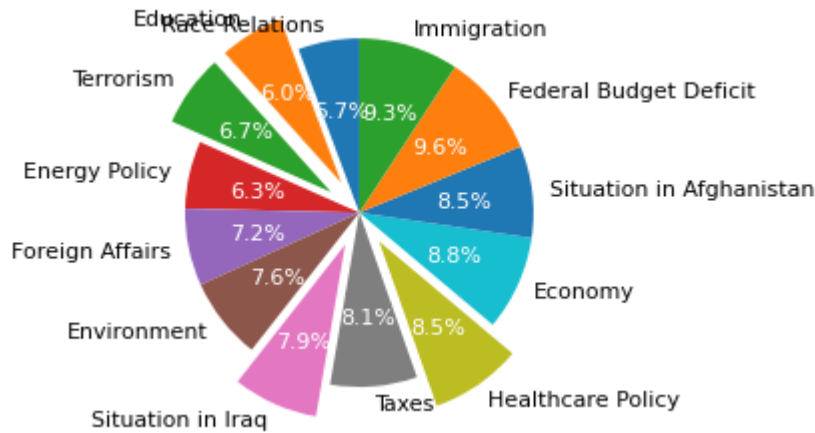
`<AxesSubplot:title={'center':'Stacked Bar Graph by dataframe'}, xlabel='Issue'>`

Stacked Bar Graph by dataframe

Pie Chart - Python

```python
#Plotting pie chart for Issue and Disapproval ratings
csfont = {'fontname':'Century Gothic MS'}
plt.rcParams['font.size'] = 11
plt.rcParams['font.weight'] = 'normal'

_, _, autotexts = plt.pie(Obama_Ratings.Disapprove, labels = Obama_Ratings.Issue,
                          startangle=90, explode=(0,0.2,0.2,0,0,0,0.2,0,0.2,0,0,0,0),
                          autopct = '%1.1f%%')
for autotext in autotexts:
    autotext.set_color('white')
```


Donut Chart - Python

Donut chart is a plot for approval ratings and Issue

```python
# Create donut chart
plt.pie(Obama_Ratings.Approve, labels = Obama_Ratings.Issue, startangle=90,
        explode=(0,0,0,0,0.2,0,0,0.2,0,0,0,0,0), autopct = '%1.1f%%', pctdistance = 0.7
centre_circle = plt.Circle((0,0), 0.40, fc = 'white')
fig = plt.gcf()
fig.gca().add_artist(centre_circle)

# Show compact plot
plt.tight_layout()
plt.show()
```