# Assignment1.2 - Python

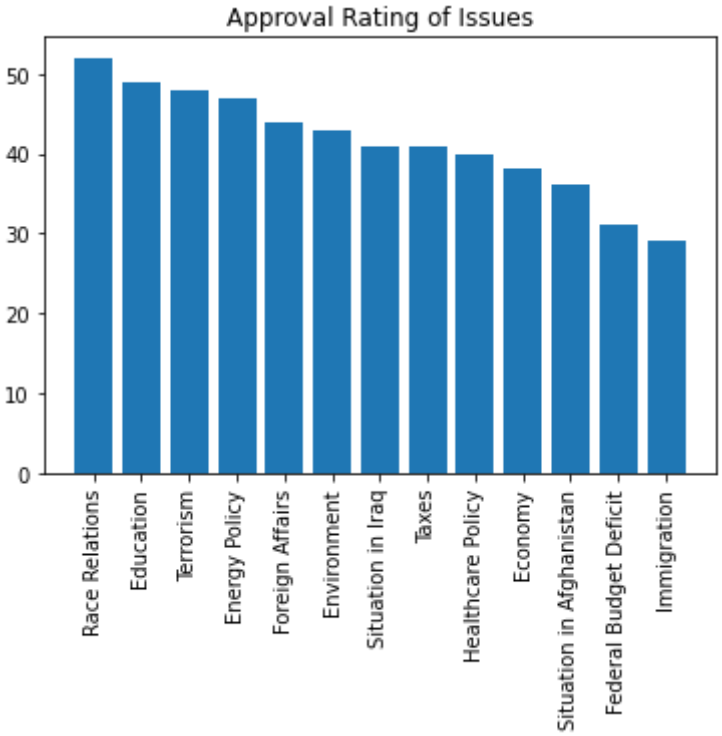
In [1]:
```
import pandas as pd
from pandas import ExcelWriter
from pandas import ExcelFile
import matplotlib.pyplot as plt

# Import data to be used for visualization
obama = pd.read_excel('ex1-2/obama-approval-ratings.xls')

# Examine data
print(obama)
```

```
                       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
```

## Plot Bar Chart

Plot the issue in x-axis and any of the corresponding ratings in the y-axis with approval ratings as the measure.

In [2]:
```
plt.bar(obama.Issue, obama.Approve)
plt.title('Approval Rating of Issues')
plt.xticks(rotation=90)
plt.show()
```

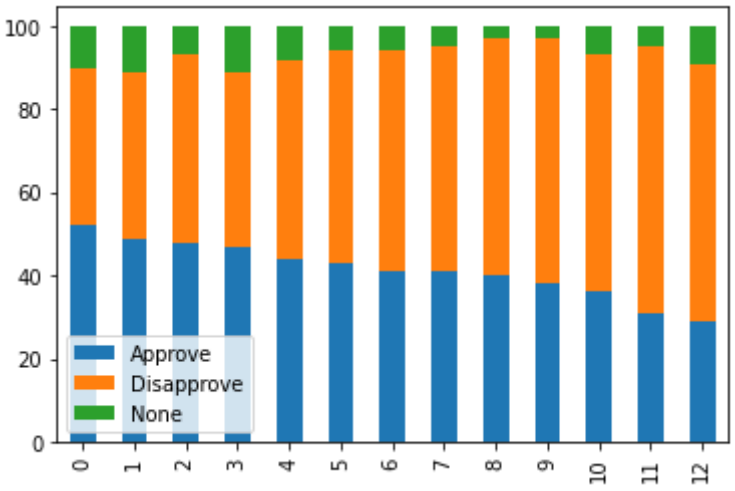



## Plot Stacked Bar Chart

Plot each issue with their respective Approval, Disapproval and Neutral counts.

In [3]:
```
obama.plot.bar(stacked=True)
```

Out[3]:
```
<AxesSubplot:>
```

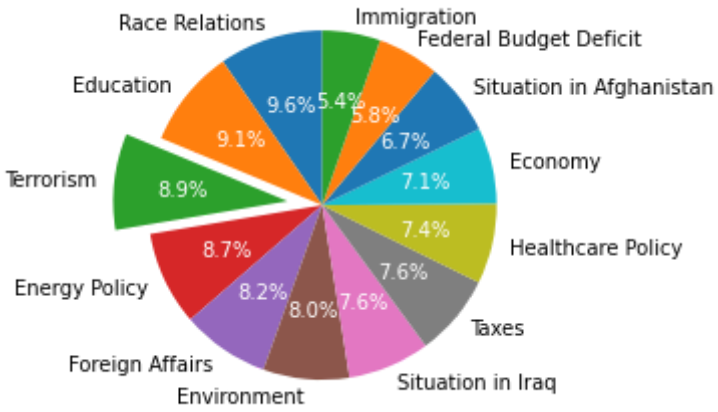



## Plot Pie Chart

For pie chart demonstration, I would like to plot percentages for each issue of Obama dataset. I would also like to explode the third issue, i.e. Terrorism.

In [4]:
```
# Create custom theme for graph
csfont = {'fontname':'Century Gothic MS'}
plt.rcParams['font.size'] = 10
```

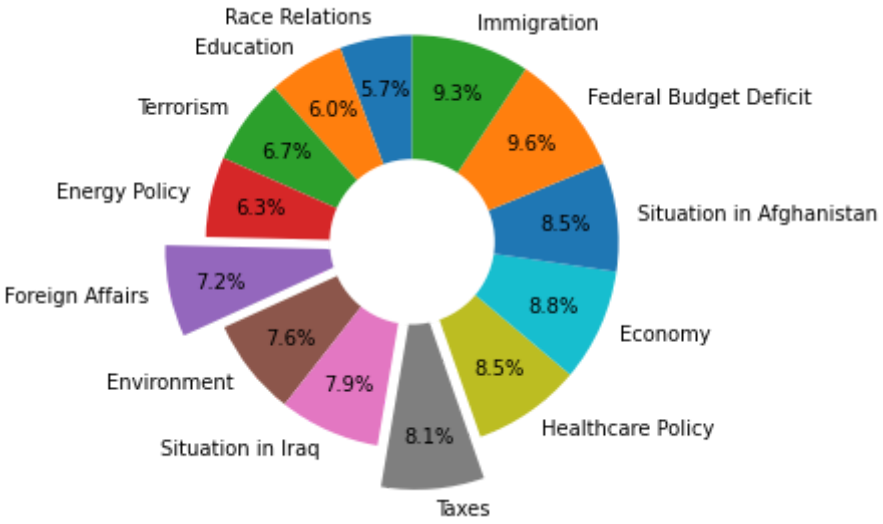
```
plt.rcParams['font.weight'] = 'normal'

# Create pie chart with custom explode
_, _, autotexts = plt.pie(obama.Approve, labels = obama.Issue,
                          startangle=90, explode=(0,0,0.2,0,0,0,0,0,0,0,0,0,0),
                          autopct = '%1.1f%%')
for autotext in autotexts:
    autotext.set_color('white')
```




## Plot Donut Chart

Plot the disapproval percentages for each issue and explode the Foreign Affairs and Taxes issue.

In [5]:
```
# Create donut chart
plt.pie(obama.Disapprove  , labels = obama.Issue, startangle=90,
        explode=(0,0,0,0,0.2,0,0,0.2,0,0,0,0,0), autopct = '%1.1f%%', pctdistar
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()
```



In [ ]: