DSC 640 - Assignment 1.2 - Charts

In [1]:
```
#Import required libraries
import pandas as pd
import matplotlib.pyplot as plt
```

In [9]:
```
# Read data from file for for visualization
obama = pd.read_excel('C:/Users/Sandeep Raina/Desktop/Arti MS/640/Week1/c
obama
```

Out[9]:

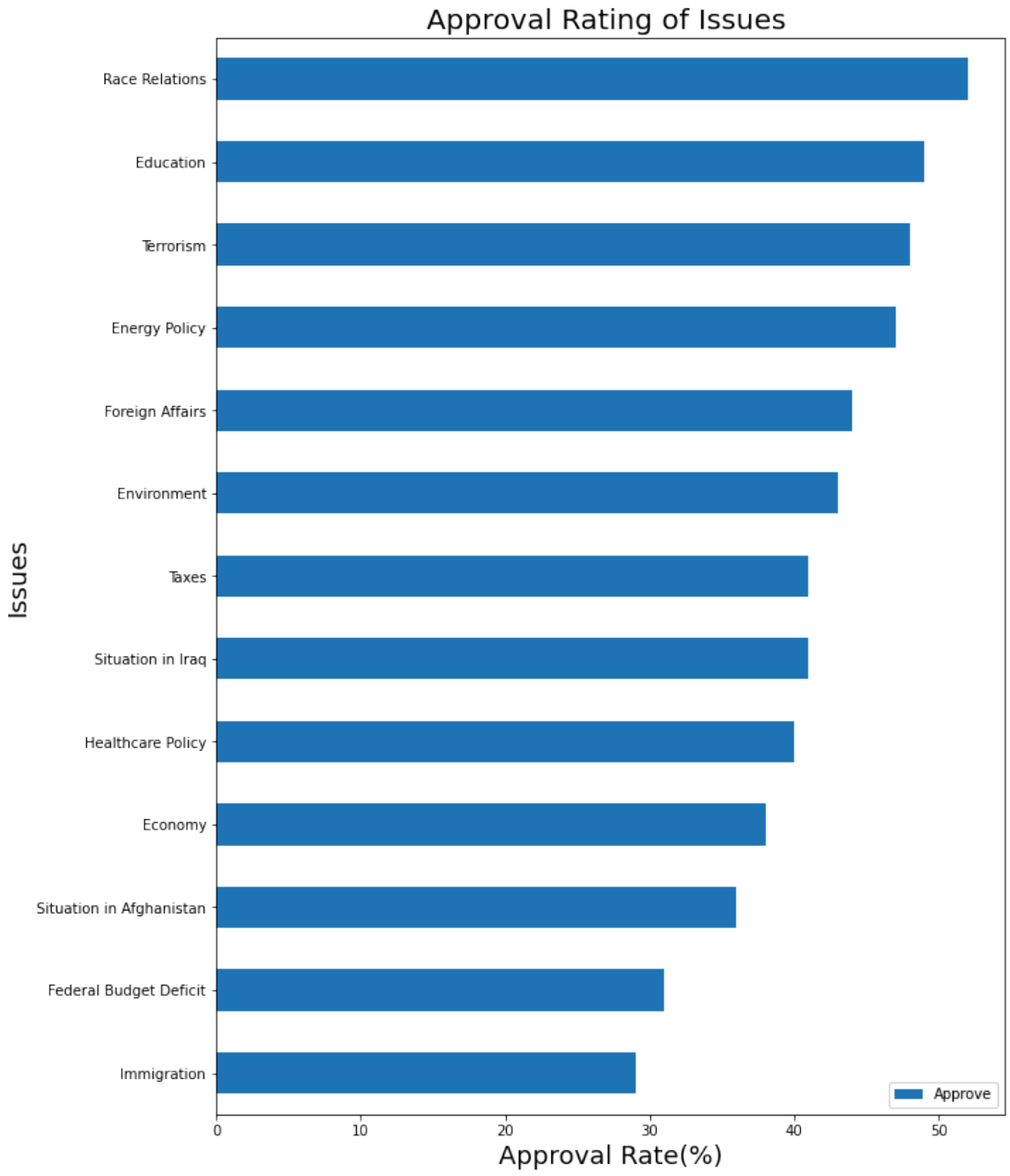
	Issue	Approve	Disapprove	None
0	Race Relations	52	38	10
1	Education	49	40	11
2	Terrorism	48	45	7
3	Energy Policy	47	42	11
4	Foreign Affairs	44	48	8
5	Environment	43	51	6
6	Situation in Iraq	41	53	6
7	Taxes	41	54	5
8	Healthcare Policy	40	57	3
9	Economy	38	59	3
10	Situation in Afghanistan	36	57	7
11	Federal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

Bar chart

Using bar chart, i am chosing to visualize approval rates for each issue

In [10]:
```
approveval = obama.sort_values(by="Approve",ascending = False)
approveval[['Issue','Approve']].sort_values(by='Approve',ascending = True
plt.title('Approval Rating of Issues ',fontsize = 20)
plt.xlabel('Approval Rate(%)',fontsize = 18)
plt.ylabel('Issues',fontsize = 18)
```

Out[10]:
```
Text(0, 0.5, 'Issues')
```

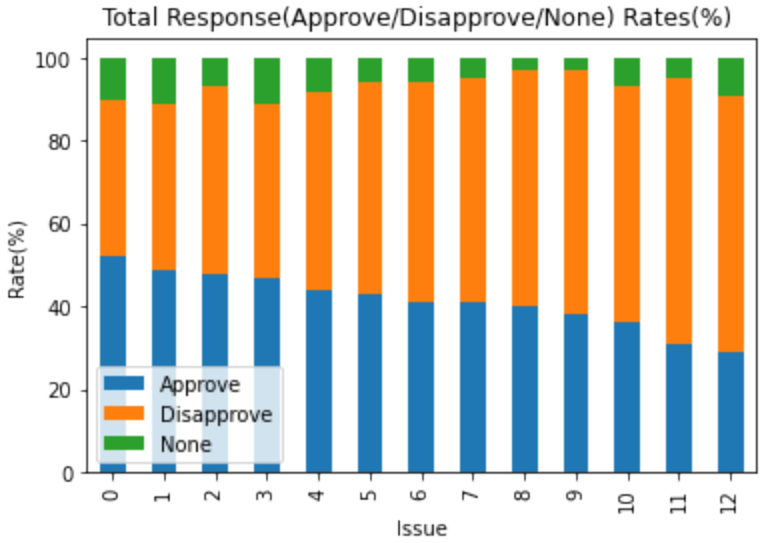


Stacked Bar Chart

For this, I will plot each issue with their respective Approval, Disapproval and None counts. This will generate a 100% stacked bar chart for each issue, so that the reactions are rightfully captured.

In [11]:
```
# creates a stacked bar plot
#obama.plot(kind='bar', stacked=True)
obama[["Approve", "Disapprove", "None"]].plot(kind="bar", stacked=True)
plt.title("Total Response(Approve/Disapprove/None) Rates(%) ")
plt.xlabel("Issue")
plt.ylabel("Rate(%)")
```

Out[11]:
```
Text(0, 0.5, 'Rate(%)')
```

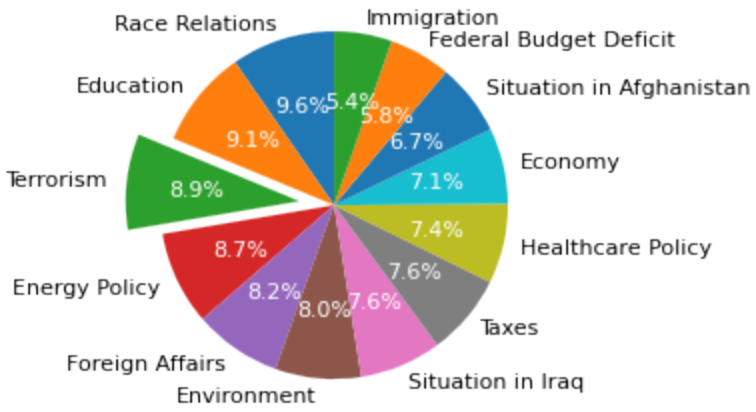


Pie Chart

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 [12]:
```
# Create custom theme for graph
csfont = {'fontname':'Century Gothic MS'}
plt.rcParams['font.size'] = 11
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
                          autopct = '%1.1f%%')
for autotext in autotexts:
    autotext.set_color('white')
```

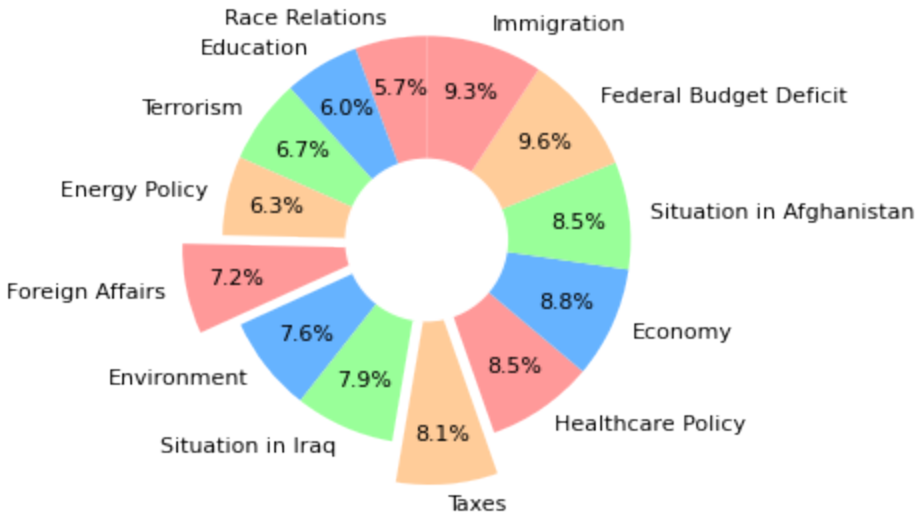


Donut Chart

For donut chart demonstration, I would like to plot the disapproval percentages for each issue and explode the Foreign Affairs and Taxes issue.

In [13]:
```
# Create donut chart
col = ['#ff9999','#66b3ff','#99ff99','#ffcc99']
plt.pie(obama.Disapprove  , labels = obama.Issue, colors = col, startangl
        explode=(0,0,0,0,0.2,0,0,0.2,0,0,0,0,0), autopct = '%1.1f%%', pct
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 [ ]:
```

```