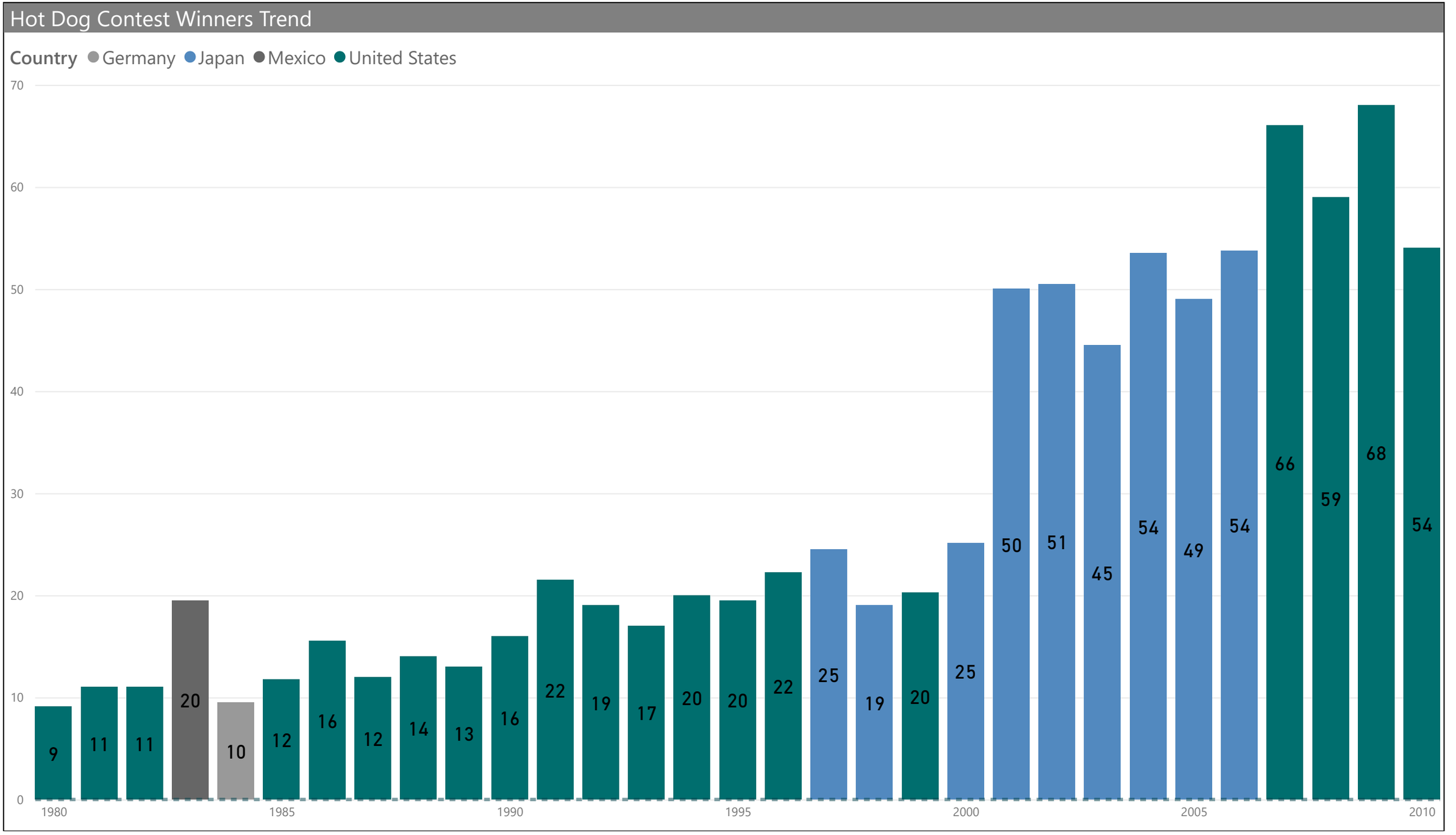
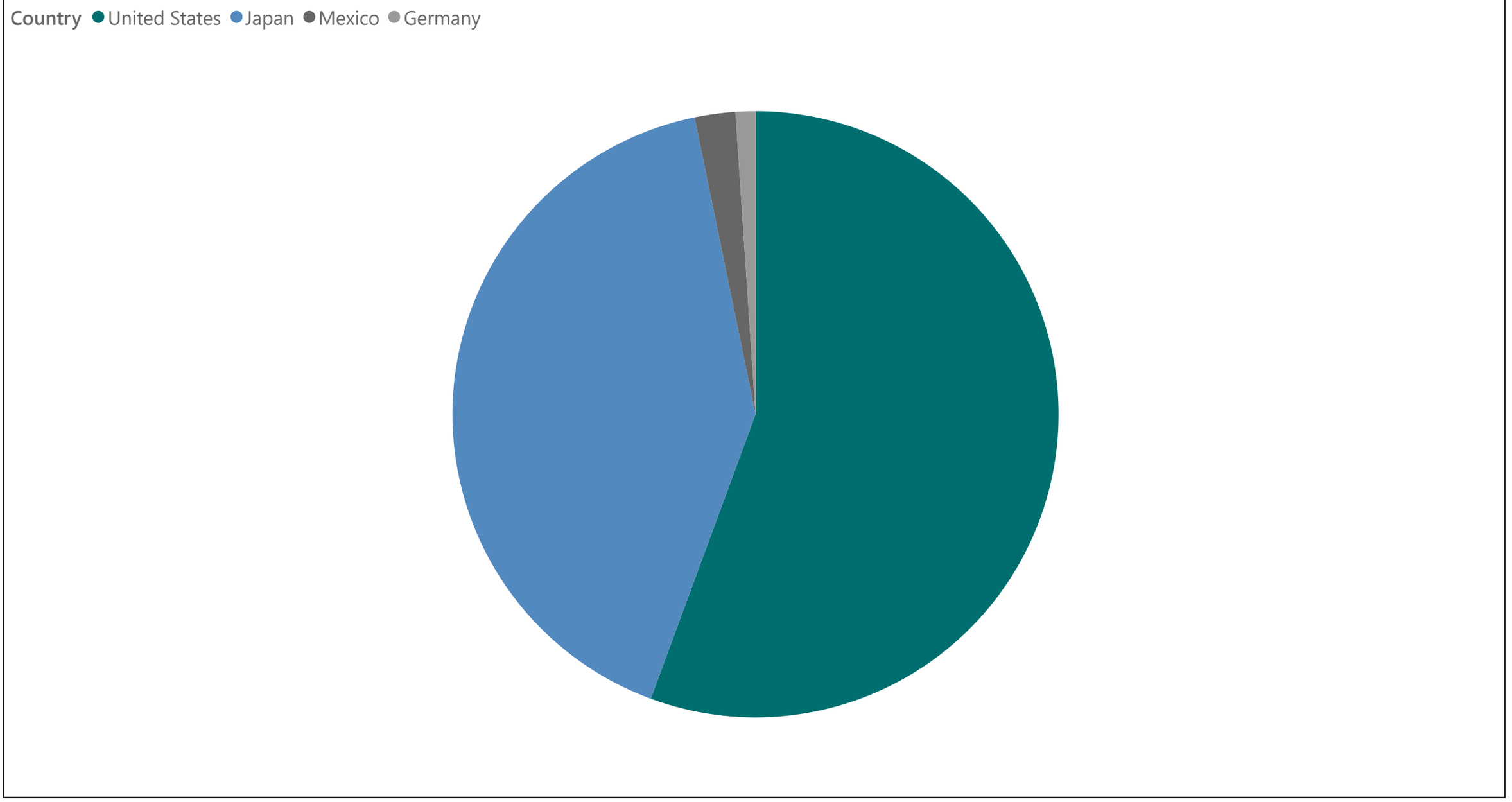
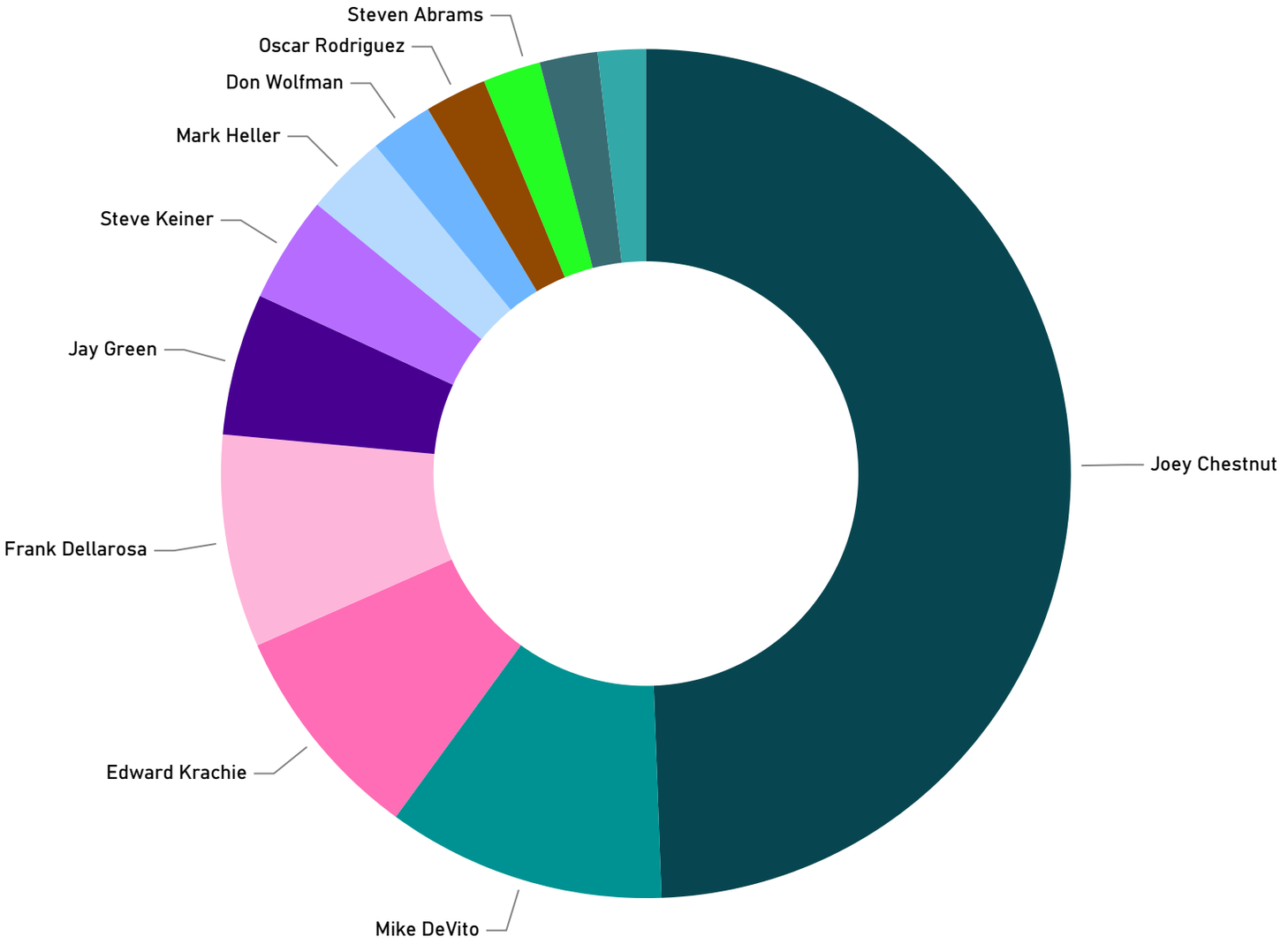
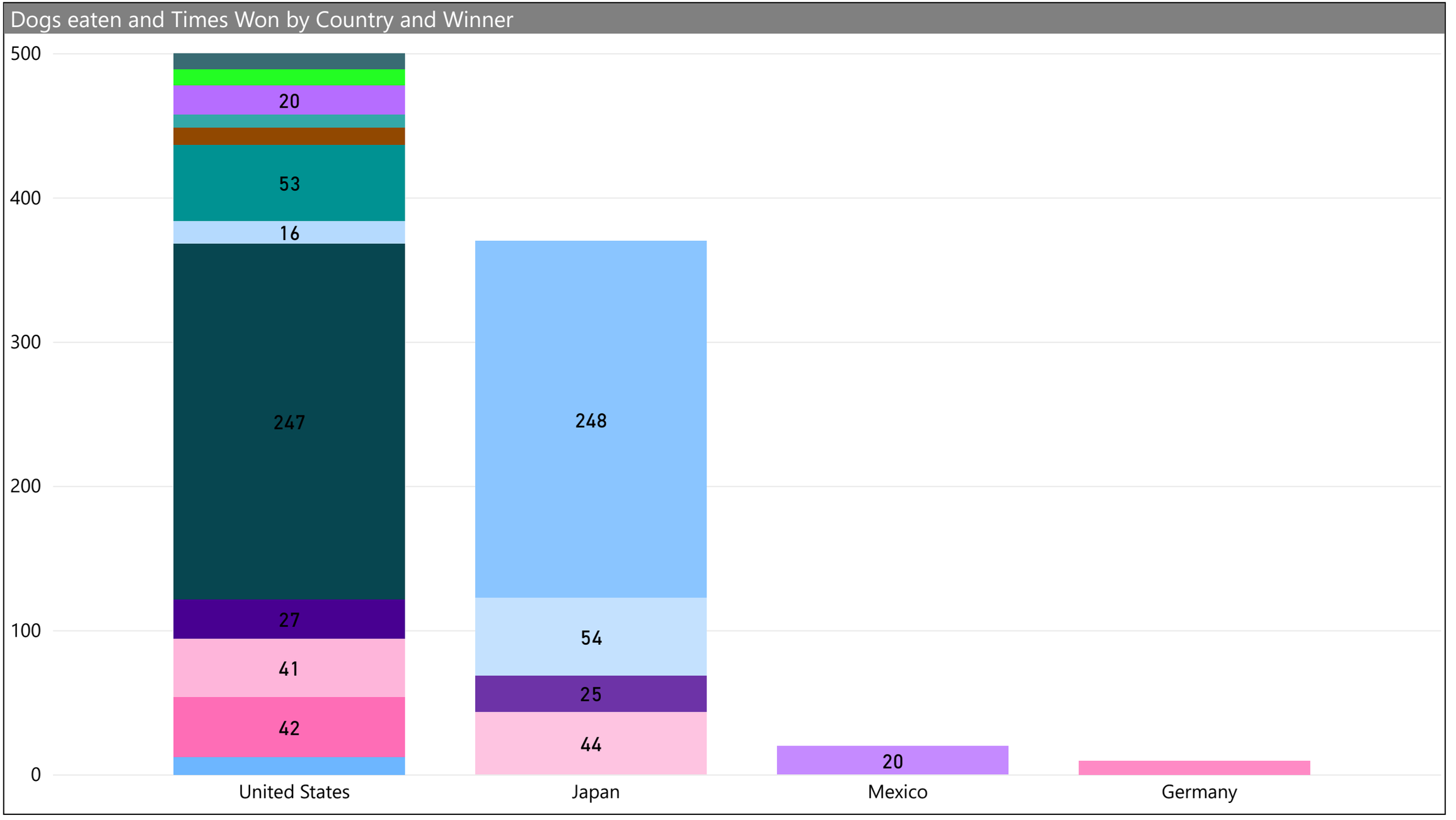

Hot Dog Contest Winners Trend
Country
Germany
Japan
Mexico
United States
70
60
50
40
30
20
10
0
9
11
11
20
10
12
16
12
14
13
16
22
19
17
20
20
22
25
19
20
25
50
51
45
54
49
54
66
59
68
54
1980
1985
1990
1995
2000
2005
2010

Overall Dogs Eaten by winners



Overall Dogs Eaten by Winners from USA




Dogs eaten and Times Won by Country and Winner
500
400
300
200
100
0
20
53
16
247
27
41
42
248
54
25
44
20
United States
Japan
Mexico
Germany

You need to submit 3 bar charts, 3 stacked bar charts, 3 pie charts, and 3 donut charts using Tableau or PowerBI, Python and R using the data from the link below (the link will download a zipped folder containing three data files.) You may also use your own datasets if you wish. You can also submit using D3 if you choose – but it is not required. You can choose which library to use in Python or R, documentation is provided to help you decide and as you start to play around in the libraries, you will decide which you prefer.

Excercise in Python

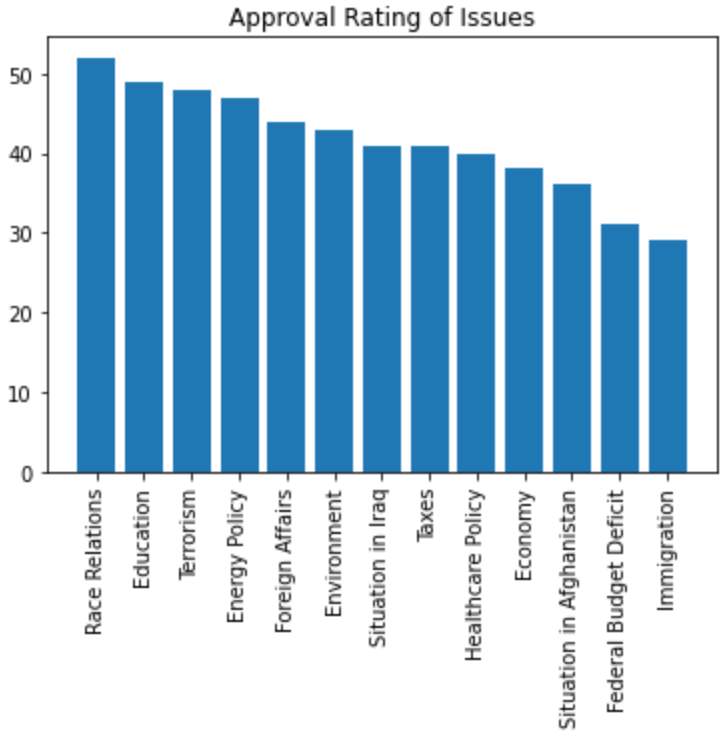
In [1]:
```
import pandas as pd
from pandas import ExcelWriter
from pandas import ExcelFile
import matplotlib.pyplot as plt

# 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
```

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()
```

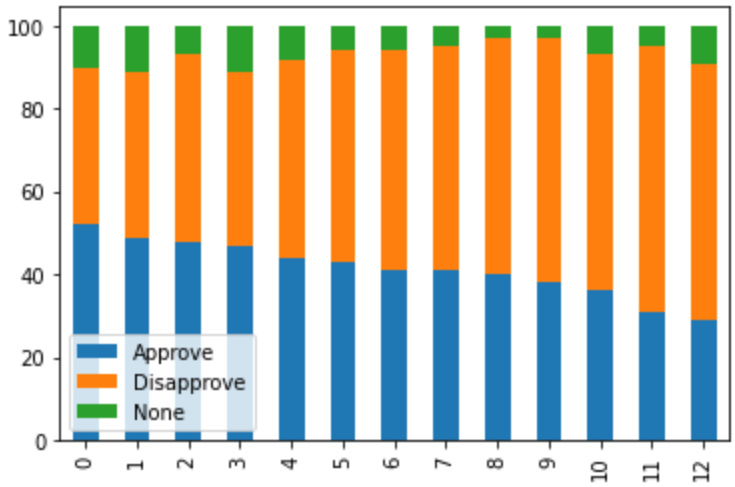


Stacked Bar Chart

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

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

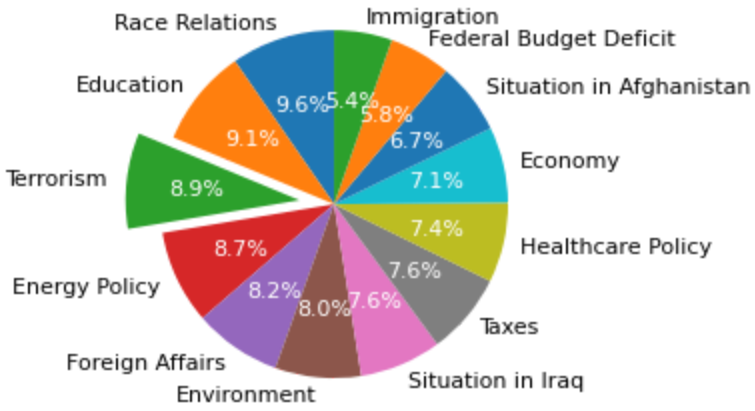
Out[3]:
```
<AxesSubplot:>
```



Donut Chart

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

In [4]:
```
# 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=(0,0,0.2,0,0,0,0,0,0,0,0,0,0),
                          autopct = '%1.1f%%')
for autotext in autotexts:
    autotext.set_color('white')
```

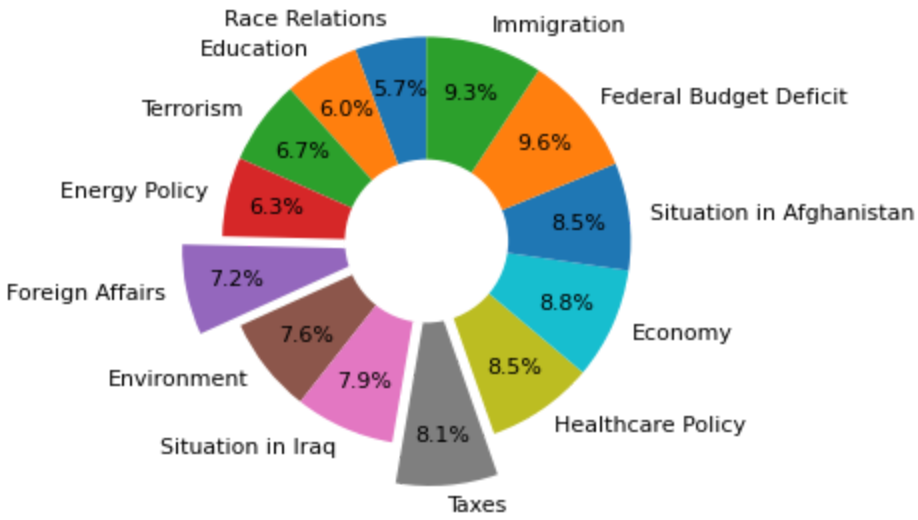


Pie Chart

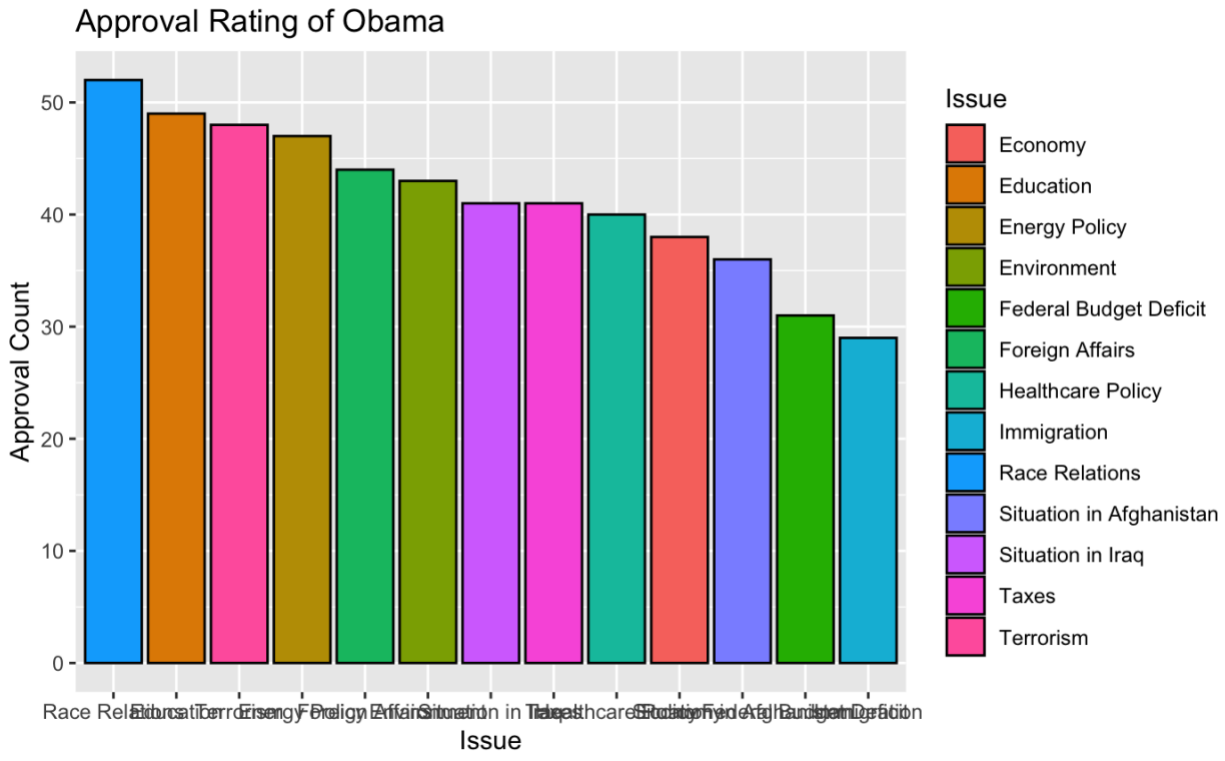
For pie chart demonstration, I would like to plot percentages for each issue of Obama dataset. I would also like to explode the third issue, i.e. Terrorism.

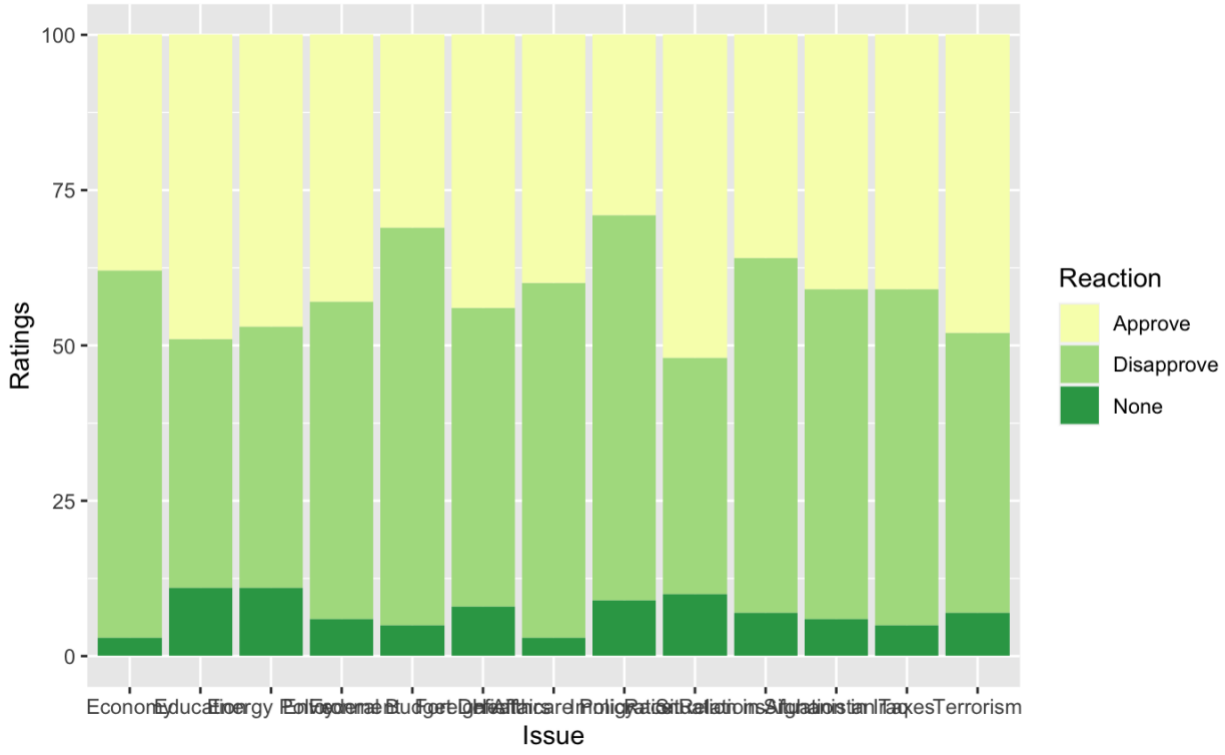
In [5]:

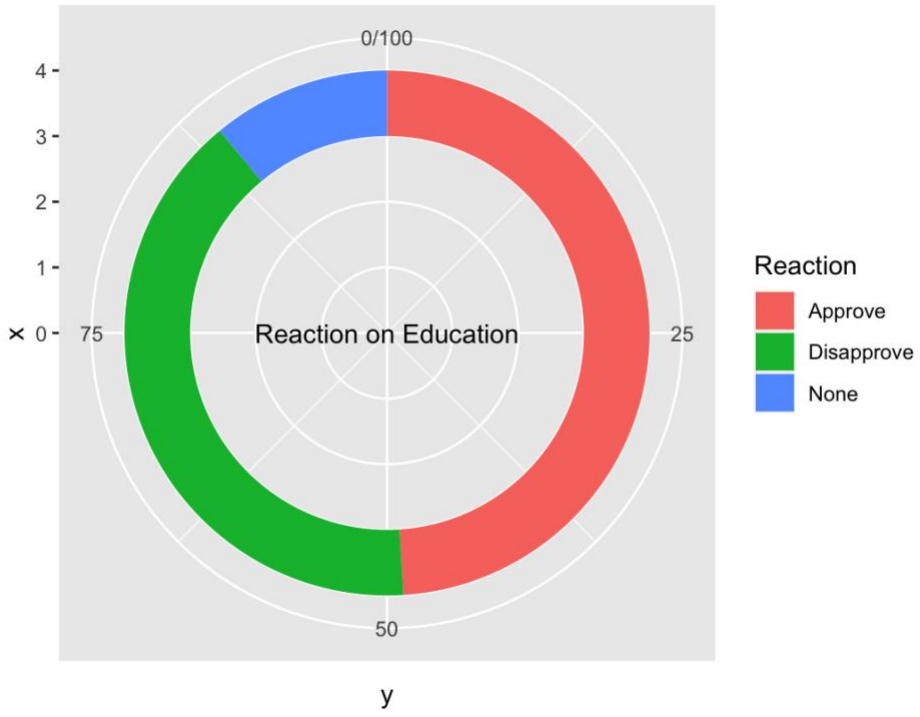
```
# Create donut chart
plt.pie(obama.Disapprove  , labels = obama.Issue, startangle=90,
        explode=(0,0,0,0,0.2,0,0,0.2,0,0,0,0,0), autopct = '%1.1f%%', pctdistance = 0.75)
centre_circle = plt.Circle((0,0), 0.40, fc = 'white')
fig = plt.gcf()
fig.gca().add_artist(centre_circle)

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

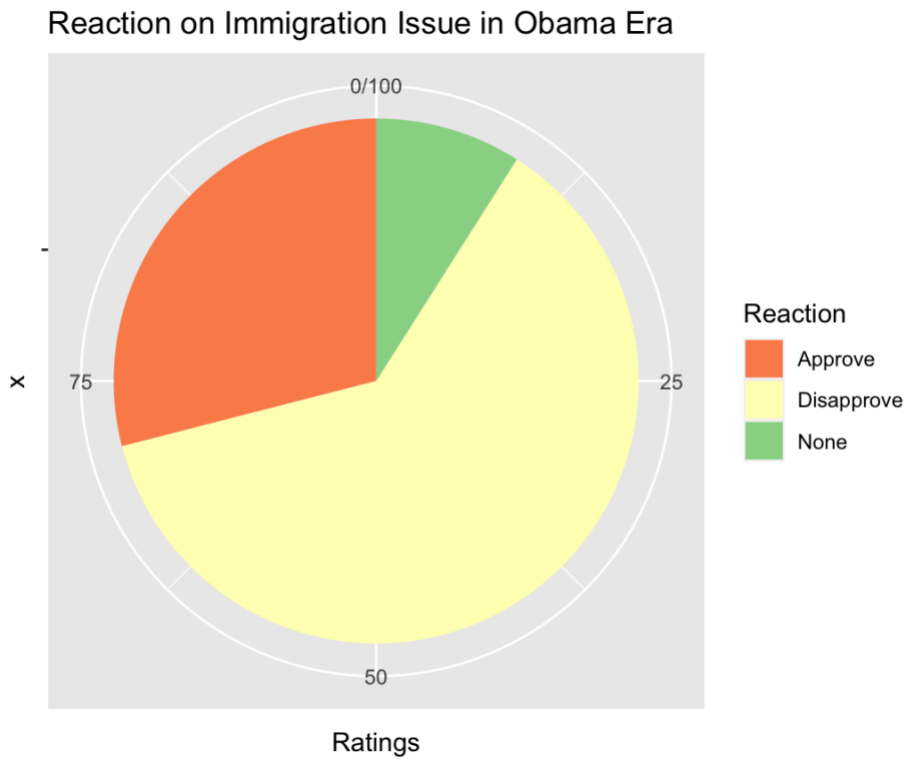


In [ ]:


Approval Rating of Obama
Approval Count
50
40
30
20
10
0
Issue
Economy
Education
Energy Policy
Environment
Federal Budget Deficit
Foreign Affairs
Healthcare Policy
Immigration
Race Relations
Situation in Afghanistan
Situation in Iraq
Taxes
Terrorism


Ratings
100
75
50
25
0
Issue
Reaction
Approve
Disapprove
None


0/100
4
3
2
1
x 0
75
25
50
Reaction on Education
y
Reaction
Approve
Disapprove
None


Reaction on Immigration Issue in Obama Era
0/100
x
75
25
50
Ratings
Reaction
Approve
Disapprove
None

Assignment 1.2

Veera Koppula

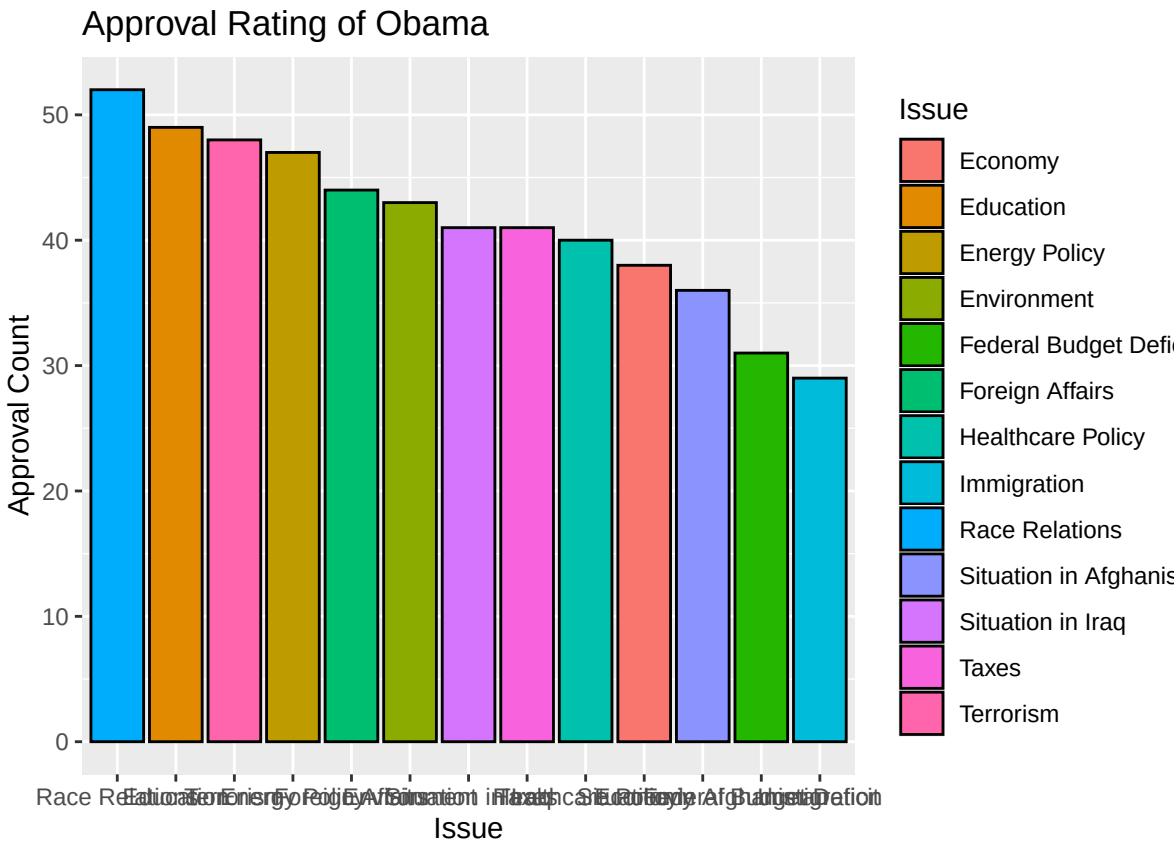
03/26/2022

You need to submit 3 bar charts, 3 stacked bar charts, 3 pie charts, and 3 donut charts using Tableau or PowerBI, Python and R using the data from the link below (the link will download a zipped folder containing three data files.) You may also use your own datasets if you wish. You can also submit using D3 if you choose – but it is not required. You can choose which library to use in Python or R, documentation is provided to help you decide and as you start to play around in the libraries, you will decide which you prefer.

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

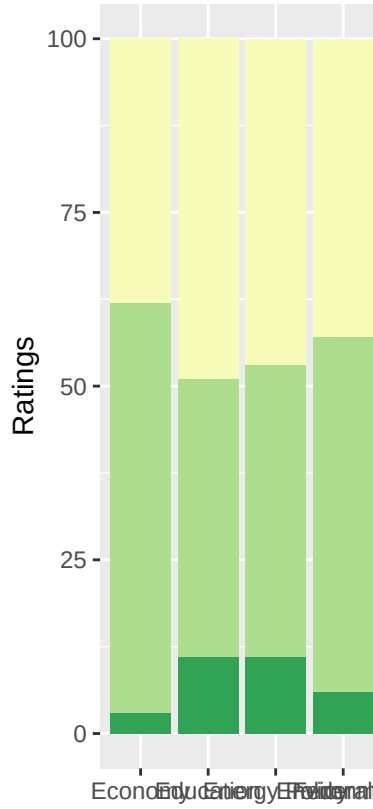
Bar chart

####Plot the issue in *x-axis* and any of the corresponding ratings in the *y-axis*. I am chosing the approval



ratings as the measure

Stacked Bar Chart

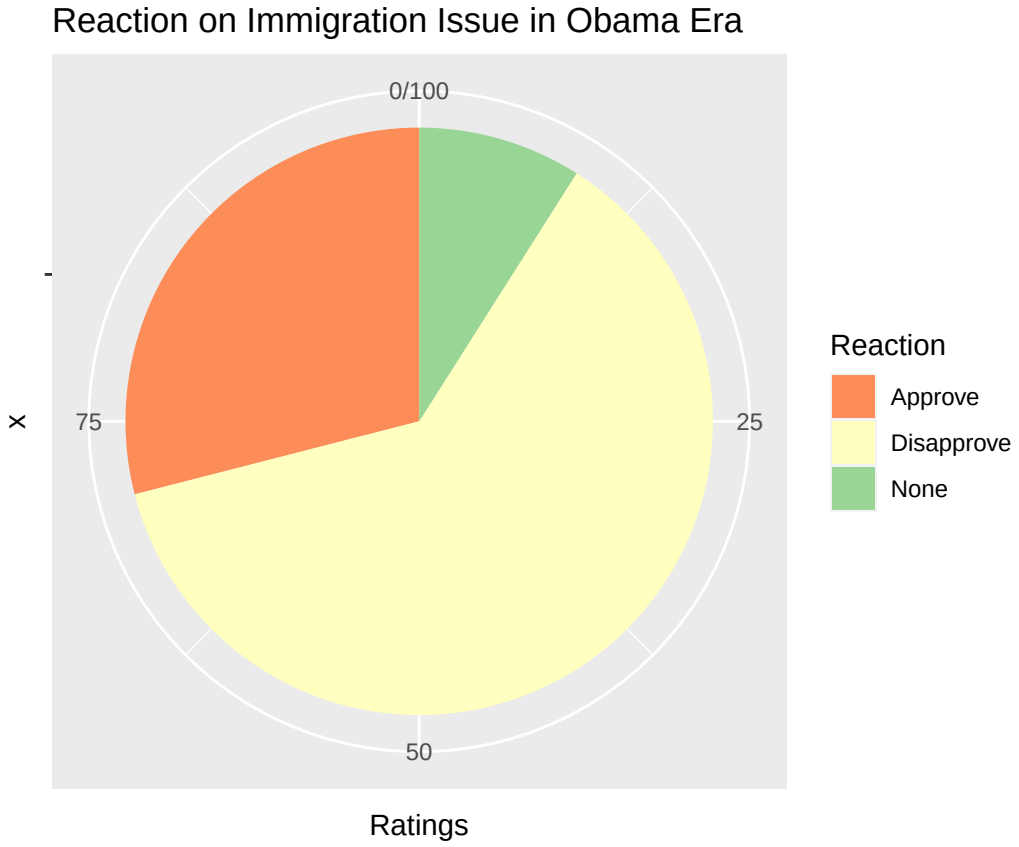


Plot each issue with their respective Approval, Disapproval and Neutral counts.

Pie Chart

```
obama_long %>%
    dplyr::filter(Issue=='Immigration') %>%
    ggplot2::ggplot(ggplot2::aes(x="", y=Ratings, fill=Reaction))+
        ggplot2::geom_bar(width = 1, stat = 'identity') +
        ggplot2::coord_polar('y', start=0)  +
        ggplot2::ggtitle(label = 'Reaction on Immigration Issue in Obama Era') +
        ggplot2::scale_fill_brewer(palette='Spectral')
```

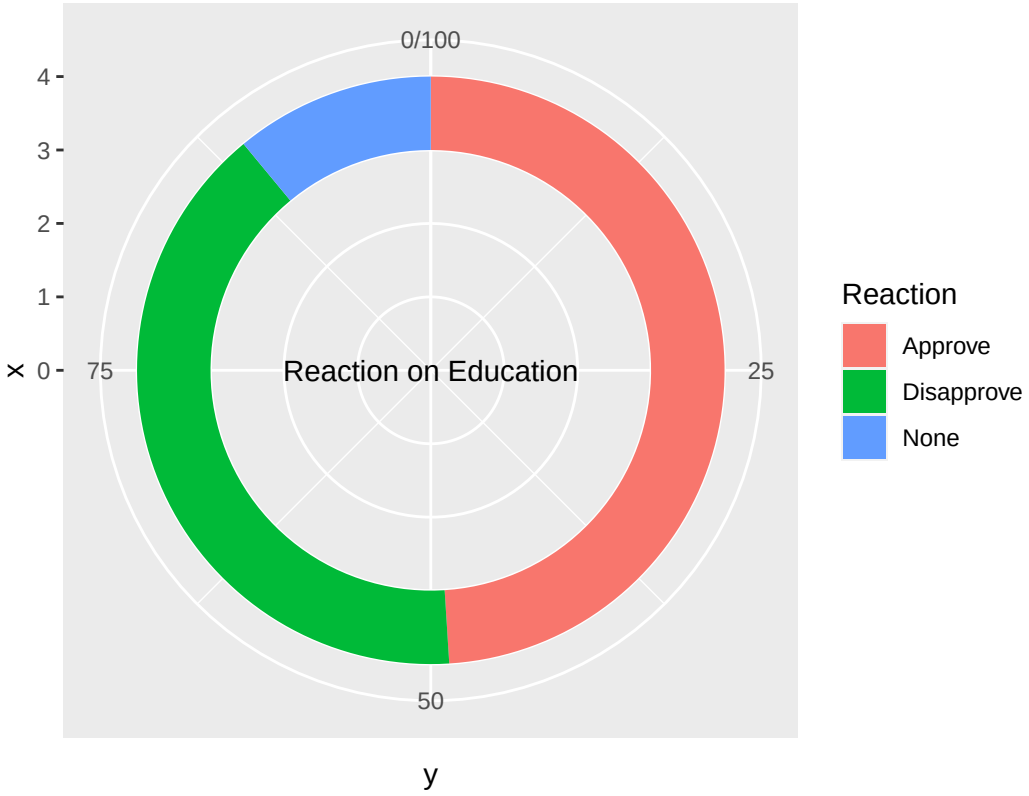
For pie chart demonstration, Plot Immigration issue and plot the different ratings in a pie.



Donut Chart

```
obama_long %>%
    dplyr::filter(Issue=='Education') %>%
    dplyr::mutate(ymax=cumsum(Ratings),
                  ymin=c(0,ymax[1:length(ymax)-1])) %>%
    ggplot2::ggplot(ggplot2::aes(fill=Reaction, ymax=ymax, ymin=ymin, xmax=4, xmin=3)) +
         ggplot2::geom_rect() +
         ggplot2::coord_polar(theta='y') +
         ggplot2::xlim(c(0, 4)) +
         ggplot2::annotate('text', x = 0, y = 0, label = 'Reaction on Education') +
         ggplot2::labs(title='')
```

For donut chart demonstration, Plot Education issue and plot the different ratings in the shape



of a ring/donut.