Week_1_Assignment_Raj_Ponnam

December 4, 2022

[1]:
```
# DSC 640
# Assignment Week 1
# Author : Raj Ponnam
# Created Date : 12/04/2022
# Change log
# Author: Raj Ponnam
# Description : Initial version
```

[4]:
```
# imports

import pandas as pd
from pandas import ExcelWriter
from pandas import ExcelFile
import matplotlib.pyplot as plt
```

[5]:
```
# Import data to be used for visualization

hotdog_winners_df = pd.read_excel('/Users/rajponnam/Documents/ds_course/dsc640/
 ↪Week1/hotdog-contest-winners.xlsm')
hotdog_places_df = pd.read_excel('/Users/rajponnam/Documents/ds_course/dsc640/
 ↪Week1/hotdog-places.xlsm')
obama_approval_ratings_df = pd.read_excel('/Users/rajponnam/Documents/ds_course/
 ↪dsc640/Week1/obama-approval-ratings.xls')
```

[6]:
```
hotdog_winners_df.head()
```

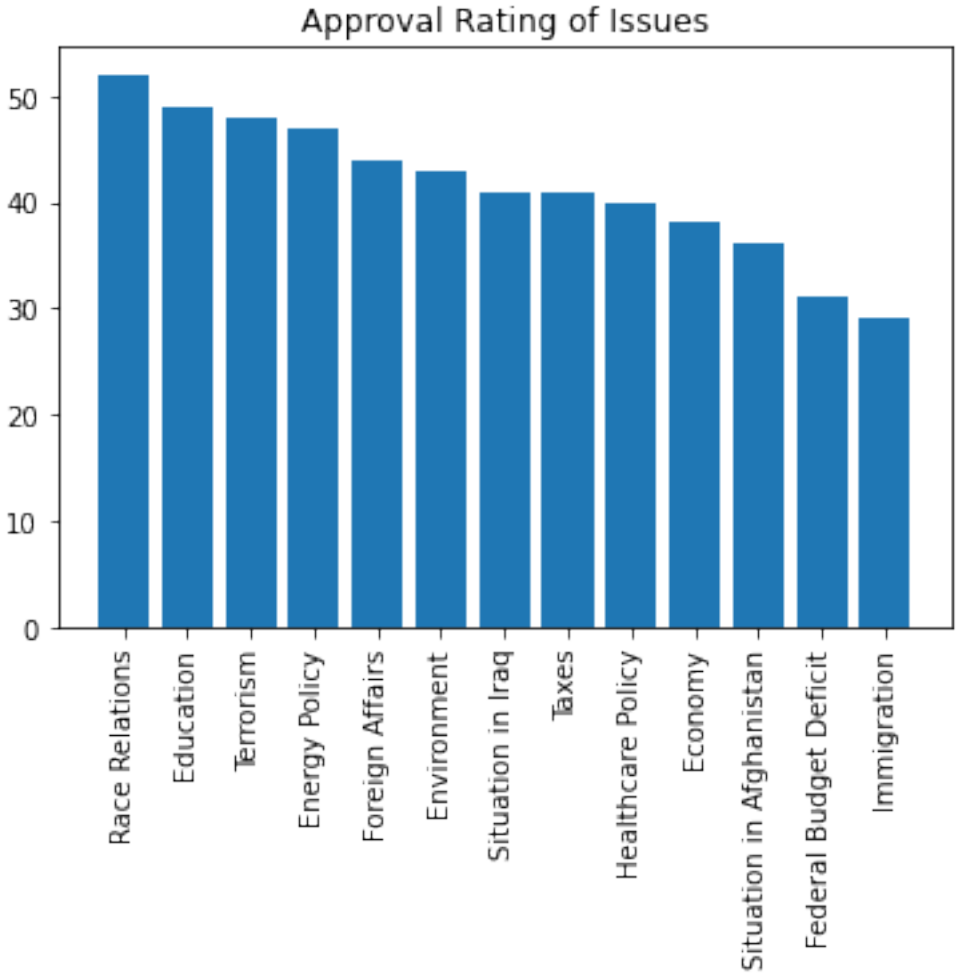
[6]:

	Year	Winner	Dogs eaten	Country	New record
0	1980	Paul Siederman & Joe Baldini	9.1	United States	0
1	1981	Thomas DeBerry	11.0	United States	0
2	1982	Steven Abrams	11.0	United States	0
3	1983	Luis Llamas	19.5	Mexico	0
4	1984	Birgit Felden	9.5	Germany	0

1 Bar chart

Looks like we can 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.

[9]:
```
# Plot Bar chat
plt.bar(obama_approval_ratings_df.Issue, obama_approval_ratings_df.Approve)
plt.title('Approval Rating of Issues')
plt.xticks(rotation=90)
plt.show()
```

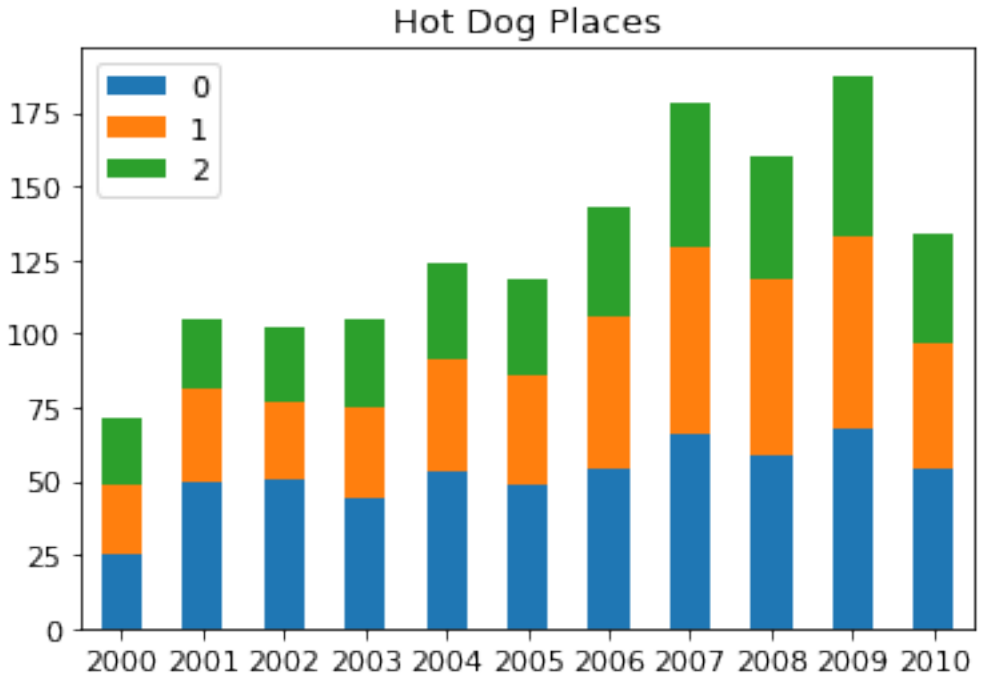


2 Stacked Bar Chart

For this, I will plot each issue with their respective Approval, Disapproval and Neutral counts. This will generate a 100% stacked bar chart for each issue, so that the reactions are rightfully captured.

[18]:
```
hotdog_matrix = hotdog_places_df.transpose()
hotdog_matrix.plot(kind='bar', stacked=True)
# Just add a title and rotate the x-axis labels to be horizontal.
plt.title('Hot Dog Places')
plt.xticks(rotation=0, ha='center')
```

[18]:
```
(array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 10]),
 [Text(0, 0, '2000'),
  Text(1, 0, '2001'),
  Text(2, 0, '2002'),
  Text(3, 0, '2003'),
  Text(4, 0, '2004'),
  Text(5, 0, '2005'),
  Text(6, 0, '2006'),
  Text(7, 0, '2007'),
  Text(8, 0, '2008'),
  Text(9, 0, '2009'),
  Text(10, 0, '2010')])
```



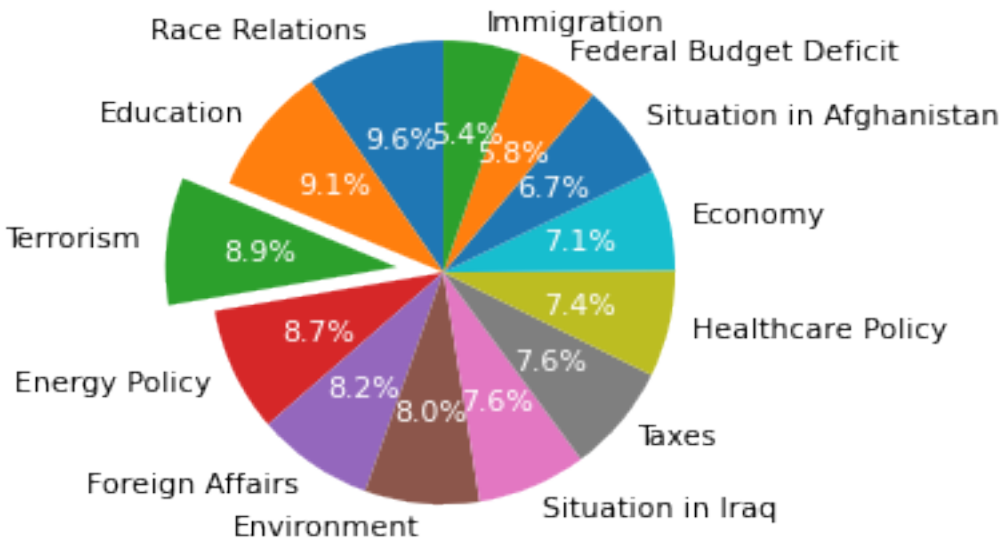
3 Pie Chart

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.

[16]:
```
# 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_approval_ratings_df.Approve, labels =␣
 ↪obama_approval_ratings_df.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')
```

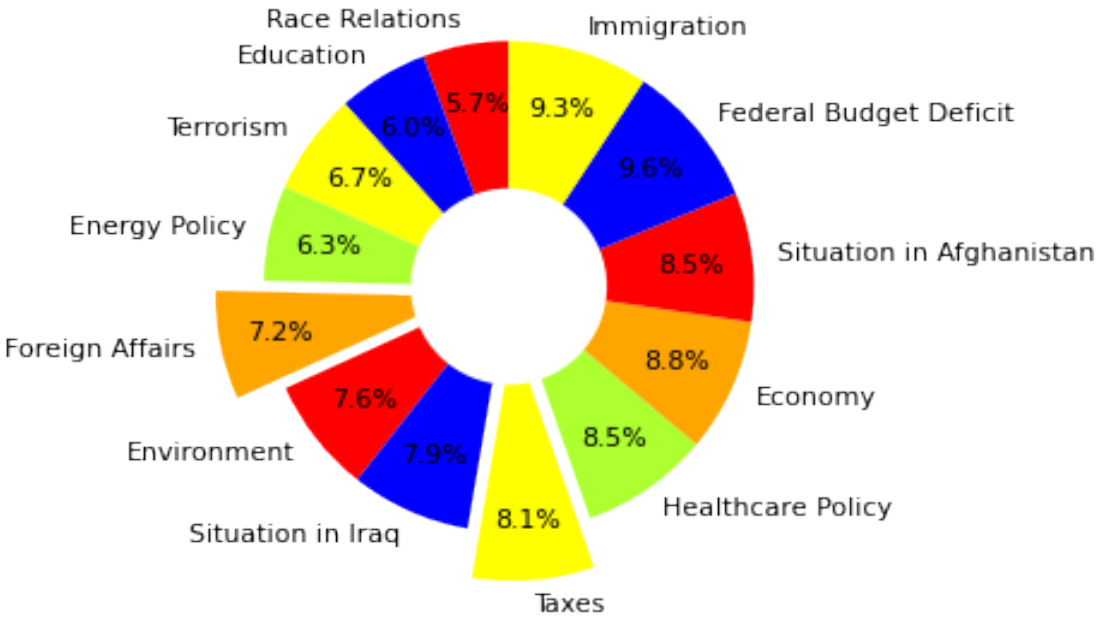


4 Donut Chart

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

[22]:
```
# Create donut chart
colors = ['#FF0000', '#0000FF', '#FFFF00',
 '#ADFF2F', '#FFA500']
plt.pie(obama_approval_ratings_df.Disapprove  , labels =␣
 ↪obama_approval_ratings_df.Issue, colors = colors, 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()
```


Race Relations
Immigration
Education
Terrorism
Federal Budget Deficit
Energy Policy
Situation in Afghanistan
Foreign Affairs
Economy
Environment
Healthcare Policy
Situation in Iraq
Taxes
5.7%
9.3%
6.0%
9.6%
6.7%
8.5%
6.3%
8.8%
7.2%
8.5%
7.6%
7.9%
8.1%

[ ]: