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DSC 640 - Winter 2023

Weeks 1 & 2 - Exercise: Charts

In [1]:
```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
import plotly.express as px


from pandas import ExcelWriter
from pandas import ExcelFile
import xlrd
```

IMPORTING DATA.

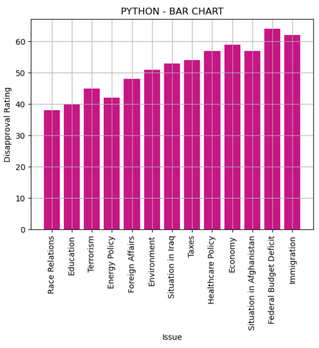
In [2]:
```
obama_df = pd.read_excel('/Users/aaronbrown/Documents/Classwork/DSC 640 - Data Presentation and Visualization/Data/obama-approval-ratings.xls')
obama_df
```

Out[2]:

	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 PYTHON.

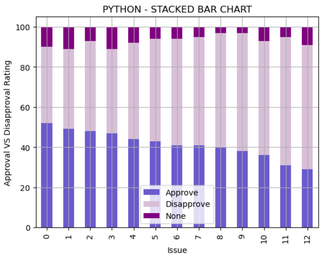
In [3]:
```
plt.bar(obama_df.Issue, obama_df.Disapprove, color='mediumvioletred')
plt.title('PYTHON - BAR CHART')
plt.xticks(rotation = 90)
plt.xlabel("Issue")
plt.ylabel("Disapproval Rating")
plt.grid(True)
plt.show()
```



STACKED BAR CHART USING PYTHON.

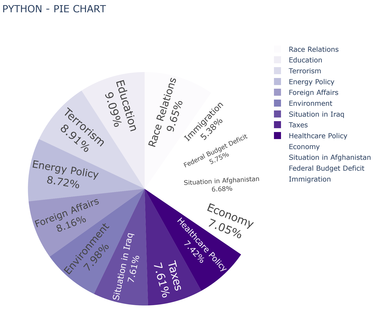
In [4]:
```
purple_pallete = ['slateblue', 'thistle', 'purple']

obama_df.plot.bar(stacked = True, title = 'PYTHON - STACKED BAR CHART', color = purple_pallete)
plt.xlabel("Issue")
plt.ylabel("Approval VS Disapproval Rating")
plt.grid(True)
plt.show()
```



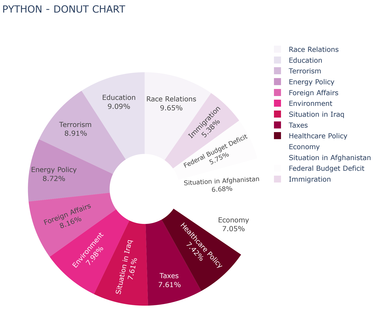
PIE CHART USING PYTHON.

In [5]:
```
fig = px.pie(obama_df, values='Approve', names='Issue', title = 'PYTHON - PIE CHART', color_discrete_sequence = px.colors.sequential.Purples)
fig.update_traces(textposition='inside', textinfo='percent+label',  textfont_size = 19)
fig.update_layout(autosize=False, width = 700, height = 700)
fig.show()
```



DONUT CHART USING PYTHON.

In [6]:
```
fig = px.pie(obama_df, values='Approve', names='Issue', title = 'PYTHON - DONUT CHART', hole = 0.3, color_discrete_sequence=px.colors.sequential.PuRd)
fig.update_traces(textposition='inside', textinfo='percent+label')
,  textfont_size = 20)
fig.update_layout(autosize=False, width = 700, height = 700)
fig.show()
```



References

Introduction to Stacked Bar Plot — Matplotlib, Pandas and Seaborn Visualization Guide (Part 2.2)

https://medium.com/the-researchers-guide/introduction-to-stacked-bar-plot-matplotlib-pandas-and-seaborn-visualization-guide-part-2-2-716960c3006b

Pie Charts in Python

https://plotly.com/python/pie-charts/

Choosing Colormaps in Matplotlib:

https://matplotlib.org/stable/tutorials/colors/colormaps.html

List of named colors in matplotlib:

https://matplotlib.org/stable/gallery/color/named_colors.html

Seaborn Styling, Color:

https://www.codecademy.com/article/seaborn-design-ii