

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

```
In [2]: #import data as dataframe
data = pd.read_excel('hotdog-contest-winners.xlsm', index_col=0)
```

```
In [3]: # review df
data.info()

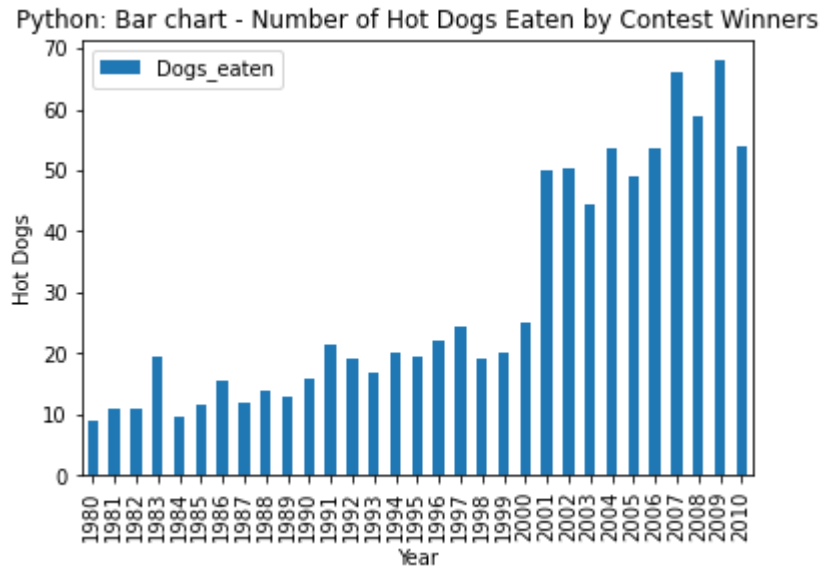
<class 'pandas.core.frame.DataFrame'>
Int64Index: 31 entries, 1980 to 2010
Data columns (total 4 columns):
 #   Column      Non-Null Count  Dtype
---  -
 0   Winner      31 non-null    object
 1   Dogs_eaten  31 non-null    float64
 2   Country     31 non-null    object
 3   New_record  31 non-null    int64
dtypes: float64(1), int64(1), object(2)
memory usage: 1.2+ KB
```

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In [4]: #data
```

PYTHON BAR CHART

```
In [5]: # x-axis uses the index, don't define
data.plot(y='Dogs_eaten', kind='bar')
plt.title('Python: Bar chart - Number of Hot Dogs Eaten by Contest Winners')
plt.xlabel('Year')
plt.ylabel('Hot Dogs')

#Save chart file
plt.savefig('PYTHON BAR CHART.png')
```



PYTHON STACKED BAR CHART

```
In [6]: #import data as dataframe
data2 = pd.read_excel('obama-approval-ratings.xls')
```

```
In [7]: #data2
```

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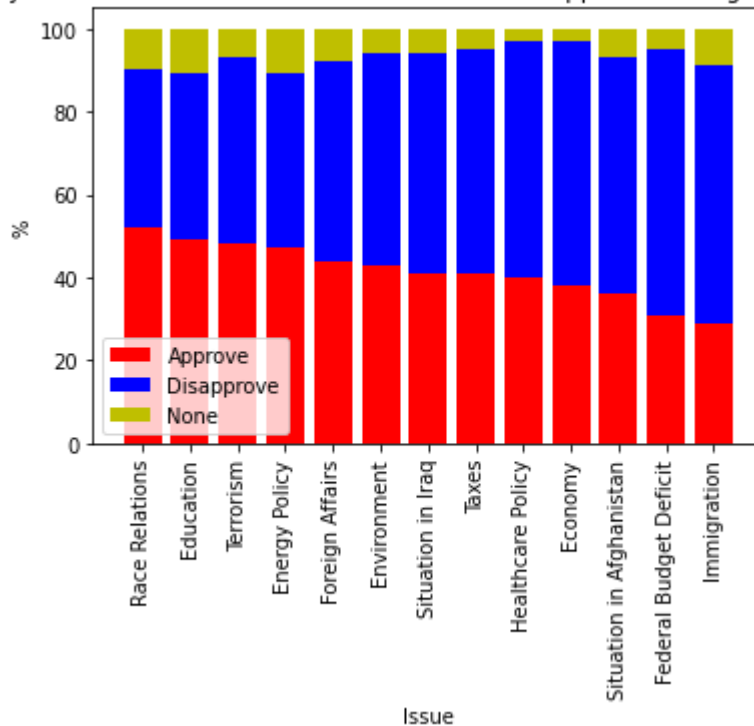
In [8]: #data setup for stacked chart
x=data2['Issue']
y1=data2['Approve']
y2=data2['Disapprove']
y3=data2['None']

# plot
plt.bar(x, y1, color='r')
plt.bar(x, y2, bottom=y1, color='b')
plt.bar(x, y3, bottom=y1+y2, color='y')
plt.xlabel("Issue")
plt.xticks(rotation=90)
plt.ylabel("%")
plt.legend(["Approve", "Disapprove", "None"])
plt.title("Python: Stacked Bar chart - President Obama Approval Ratings by Issue")

#Save chart file
plt.savefig('PYTHON STACKED BAR CHART.png')

```

Python: Stacked Bar chart - President Obama Approval Ratings by Issue



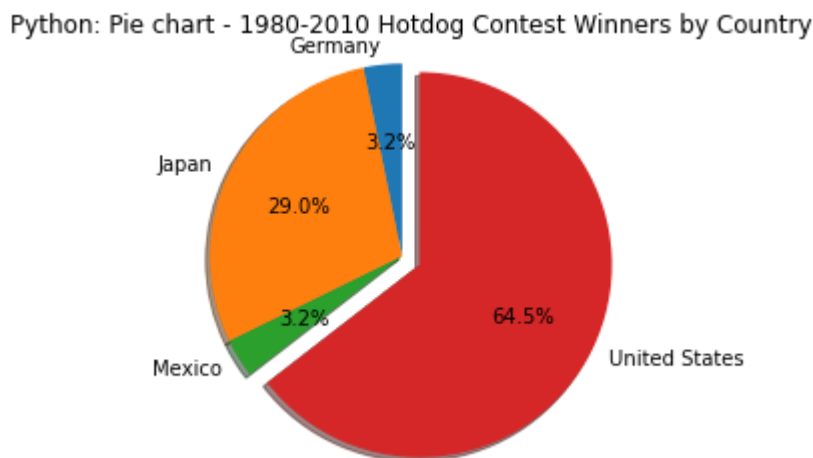
PYTHON PIE CHART

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In [9]: # groupby
piechrt = data.groupby('Country')['Winner'].count().reset_index()
```

```
In [10]: #REF: https://matplotlib.org/stable/gallery/pie_and_polar_charts/pie_features.html
# Pie chart, where the slices will be ordered and plotted counter-clockwise:
explode = (0, 0, 0, .1) # "explode" the 4th slice

fig1, ax1 = plt.subplots()
ax1.pie(piechrt['Winner'], explode=explode, labels=piechrt['Country'], autopct='%
        shadow=True, startangle=90)
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.
plt.title('Python: Pie chart - 1980-2010 Hotdog Contest Winners by Country')

#Save chart file
plt.savefig('PYTHON PIE CHART.png')
```



PYTHON DONUT CHART

```
In [11]: # groupby
donut = data.groupby('Country')['Winner'].count().reset_index()
```

In [12]: donut

Out[12]:

	Country	Winner
0	Germany	1
1	Japan	9
2	Mexico	1
3	United States	20

```
In [13]: # resource used: https://www.geeksforgeeks.org/donut-chart-using-matplotlib-in-py
# colors
colors = ['#FF0000', '#FFA500', '#FFFF00', '#ADFF2F']

# Pie Chart
plt.pie(donut['Winner'], colors=colors, labels=donut['Country'],
        autopct='%1.1f%%', pctdistance=0.85)

# draw circle
centre_circle = plt.Circle((0, 0), 0.70, fc='white')
fig = plt.gcf()

# Add Circle in Pie chart
fig.gca().add_artist(centre_circle)

# Title of chart
plt.title('Python: Donut chart - 1980-2010 Hotdog Contest Winners by Country')

#Save chart file
plt.savefig('PYTHON DONUT CHART.png')
```

Python: Donut chart - 1980-2010 Hotdog Contest Winners by Country

