HeatMap and Wordcloud

In [1]:
```
import seaborn as sns
import numpy as np
```

In [2]:
```
#Loading the dataset
tips=sns.load_dataset("tips")
tips.head()
```

Out[2]:

	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4

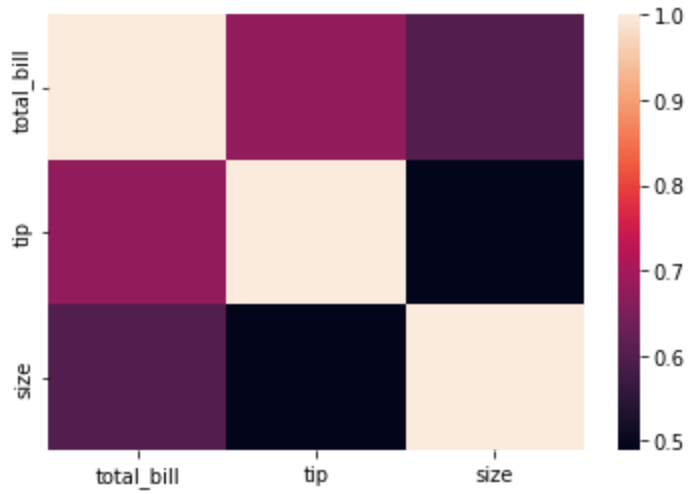
In [3]:
```
#Finding the correlation
tips.corr(numeric_only=True)
```

Out[3]:

	total_bill	tip	size
total_bill	1.000000	0.675734	0.598315
tip	0.675734	1.000000	0.489299
size	0.598315	0.489299	1.000000

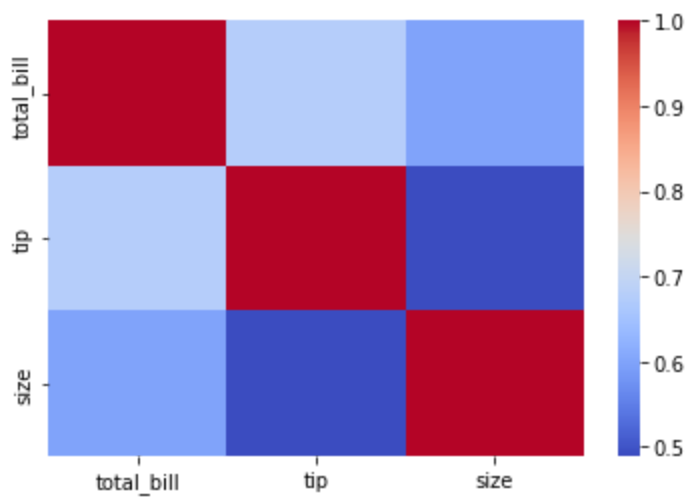
In [4]:
```
#Generating the heatmap for correlation for tips
sns.heatmap(tips.corr(numeric_only=True))
```

Out[4]:
```
<AxesSubplot: >
```



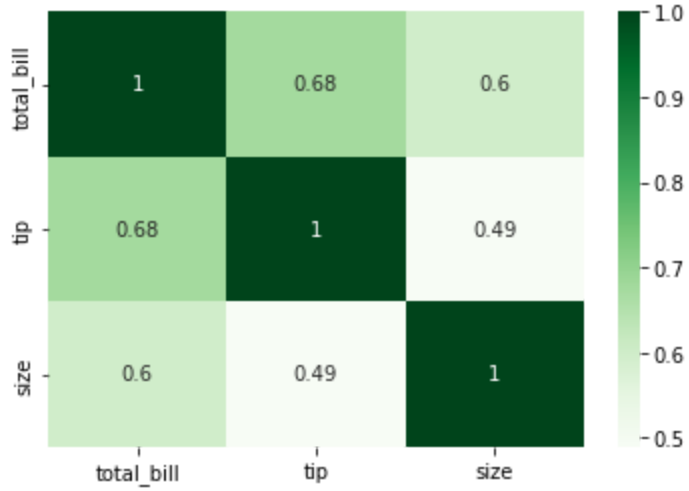
In [5]:
```
#Adding cmap parameter to heatmap
sns.heatmap(tips.corr(numeric_only=True),cmap='coolwarm')
```

Out[5]:
```
<AxesSubplot: >
```



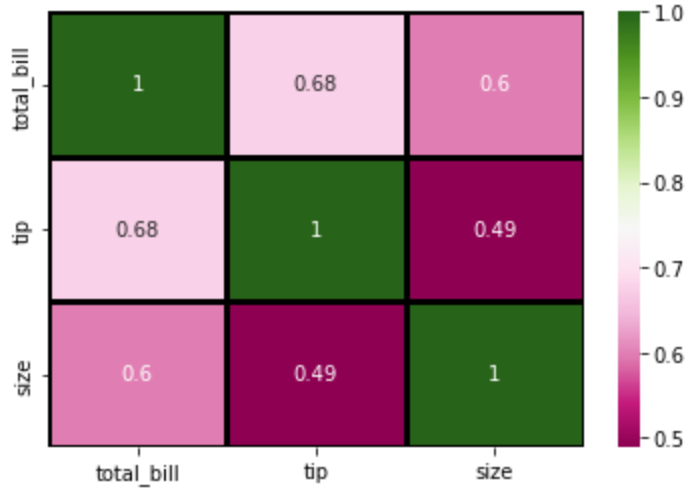
In [6]:
```
#Adding annot parameter to heatmap
sns.heatmap(tips.corr(numeric_only=True),cmap='Greens',annot=True)
```

Out[6]:
```
<AxesSubplot: >
```



In [7]:
```
#Adding linecolor,linewidth parameters to heatmap
sns.heatmap(tips.corr(numeric_only=True),cmap='PiYG',annot=True,linecolor='black',linewi
```

Out[7]:
```
<AxesSubplot: >
```



Wordcloud

In [8]:
```
#Importing packages
from wordcloud import WordCloud,STOPWORDS
```

```
import wikipedia as wiki
from PIL import Image
```

In [9]:
```
#Setting stopwords
stop_w=set(STOPWORDS)
```

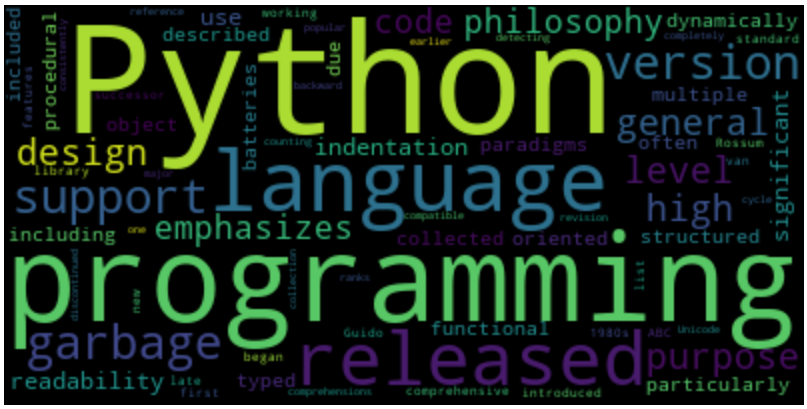
In [10]:
```
#Getting information from wikipedia
info=wiki.summary('python programming')
info
```

Out[10]:
```
'Python is a high-level, general-purpose programming language. Its design philosophy emp
hasizes code readability with the use of significant indentation.Python is dynamically-t
yped and garbage-collected. It supports multiple programming paradigms, including struct
ured (particularly procedural), object-oriented and functional programming. It is often
described as a "batteries included" language due to its comprehensive standard library.G
uido van Rossum began working on Python in the late 1980s as a successor to the ABC prog
ramming language and first released it in 1991 as Python 0.9.0. Python 2.0 was released
in 2000 and introduced new features such as list comprehensions, cycle-detecting garbage
collection, reference counting, and Unicode support. Python 3.0, released in 2008, was a
major revision that is not completely backward-compatible with earlier versions. Python
2 was discontinued with version 2.7.18 in 2020.Python consistently ranks as one of the m
ost popular programming languages.\n\n'
```

In [11]:
```
#Generating the worldcloud
wcl=WordCloud(stopwords=stop_w).generate(info)
```

In [12]:
```
#Displaying the wordcloud
img=wcl.to_image()
img
```

Out[12]:



In [13]:
```
#Getting information from wikipedia
out=wiki.summary('Jain University',sentences=5)
out
```

Out[13]:
```
'Jain University, officially JAIN (Deemed-to-be University), is a private deemed-to-be-u
niversity located in Bangalore, India. Originating from Sri Bhagawan Mahaveer Jain Colle
ge, it was conferred the deemed-to-be-university status in 2009.On August 2019 Jain Univ
ersity Opened its off campus in Kochi, Kerala.\n\n\n== History ==\nJain University origi
nates from Sri Bhagawan Mahaveer Jain College (SBMJC), established by the founder and ch
airman of JGI GROUP, Dr.Chenraj Roychand in 1990. It was conferred deemed to be universi
ty status in 2009.\n\n\n== Constituent colleges and centres ==\nJain (Deemed-to-be Unive
rsity) includes the following colleges and centers, all in Bangalore, unless otherwise n
oted:\nCMS Business school\nCenter for Management Studies\nCenter for Post Graduate Stud
ies\nCenter for Distance Education and Virtual Learning\nCentre for Research in Social S
cience and Education\nCentre for Nano and Material Sciences\nCentre for Research in Pure
and Applied Sciences\nCentre for Disaster Mitigation\nCentre for Ancient Indian History
& Culture\nCentre for Indian Psychology\nCentre for Advanced Studies in Biosciences\nChe
nraj Roychand Centre for Entrepreneurship\nInternational Institute for Aerospace Enginee
ring and Management\nSchool of Allied Healthcare and Sciences\nSchool of Commerce Studie
s\nSchool Of Sciences\nSchool of Engineering and Technology - Jain University (also know
n as Faculty of Engineering and Technology)\nCentre for Creative Arts and Design\n\n\n==
```

```
Academics ==\n\n\n=== Academic programmes ===\nJain University offers more than 200 UG a
nd PG programs in commerce, sciences, humanities and arts, engineering and technology an
d management.'
```

In [14]:
```
import os
dir = os.getcwd()
filename = dir + "/../assets/image/bird.png"
print(filename)
```

```
/Users/chiragchan/Desktop/DV Programs/src/../assets/image/bird.png
```

In [15]:
```
#Masking the image
mask_img=np.array(Image.open(filename))
```

In [16]:
```
#generating the wordcloud in shape of masked image
wc=WordCloud(mask=mask_img,
             prefer_horizontal=0.5,
             background_color="rgba(255, 255, 255, 0)",
             mode="RGBA",
             stopwords=stop_w).generate(out)
wc
```

Out[16]:
```
<wordcloud.wordcloud.WordCloud at 0x7fb06336efa0>
```

In [17]:
```
img=wc.to_image()
```

In [18]:
```
display(img)
```