How to Generate a Word Cloud of Any Shape in Python

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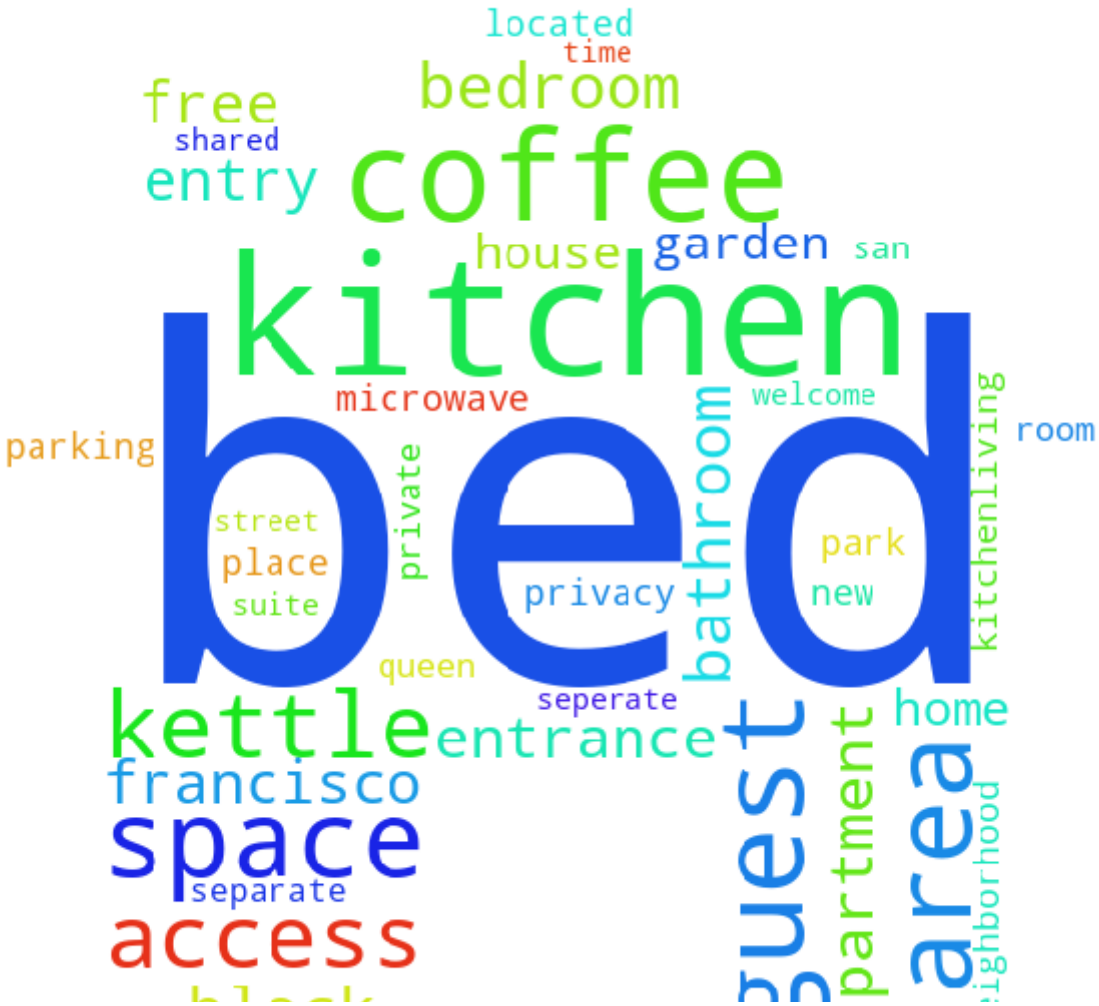
In this article, we explore how to generate a word cloud in python in any shape that you desire. We will go through an example of how to create a simple word cloud in the custom shape of a house as shown below.



If you are unfamiliar with a word cloud, it is an image of words where the size of each word indicates its frequency or importance. They are a powerful way to visualize text. Word clouds are easy to read and simple to understand. The key words stand out to the reader and are visually appealing amongst the audience.

Creating a word cloud in a shape related to the theme of your project can make your visualization even more impressive.

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PYTHON STEPS FOR GENERATING WORD CLOUD

STEP 1:

Import the following python libraries.

```
from wordcloud import WordCloud, STOPWORDS
from PIL import Image
import numpy as np
import urllib
import requests
import matplotlib.pyplot as plt
```

NOTE 1: If you get an error that states “No module named ‘wordcloud’ ”, run the following command in your terminal to install wordcloud.

```
python -m pip install wordcloud
```

NOTE 2: If you get an error regarding PIL, navigate to the following file:

```
./anaconda3/lib/python3.6/site-packages/PIL/Image.py
```

Open the Image.py file and change the code below

```
if PILLOW_VERSION != getattr(core, 'PILLOW_VERSION', None):
 raise ImportError("The _imaging extension was built for another "
 "version of Pillow or PIL:\n"
 "Core version: %s\n"
 "Pillow version: %s" %
 (getattr(core, 'PILLOW_VERSION', None),
 PILLOW_VERSION))
```

to the following

```
if core.PILLOW_VERSION != getattr(core, 'PILLOW_VERSION', None):
 raise ImportError("The _imaging extension was built for another "
 "version of Pillow or PIL:\n"
 "Core version: %s\n"
 "Pillow version: %s" %
 (getattr(core, 'PILLOW_VERSION', None),
 PILLOW_VERSION))
```

STEP 2:

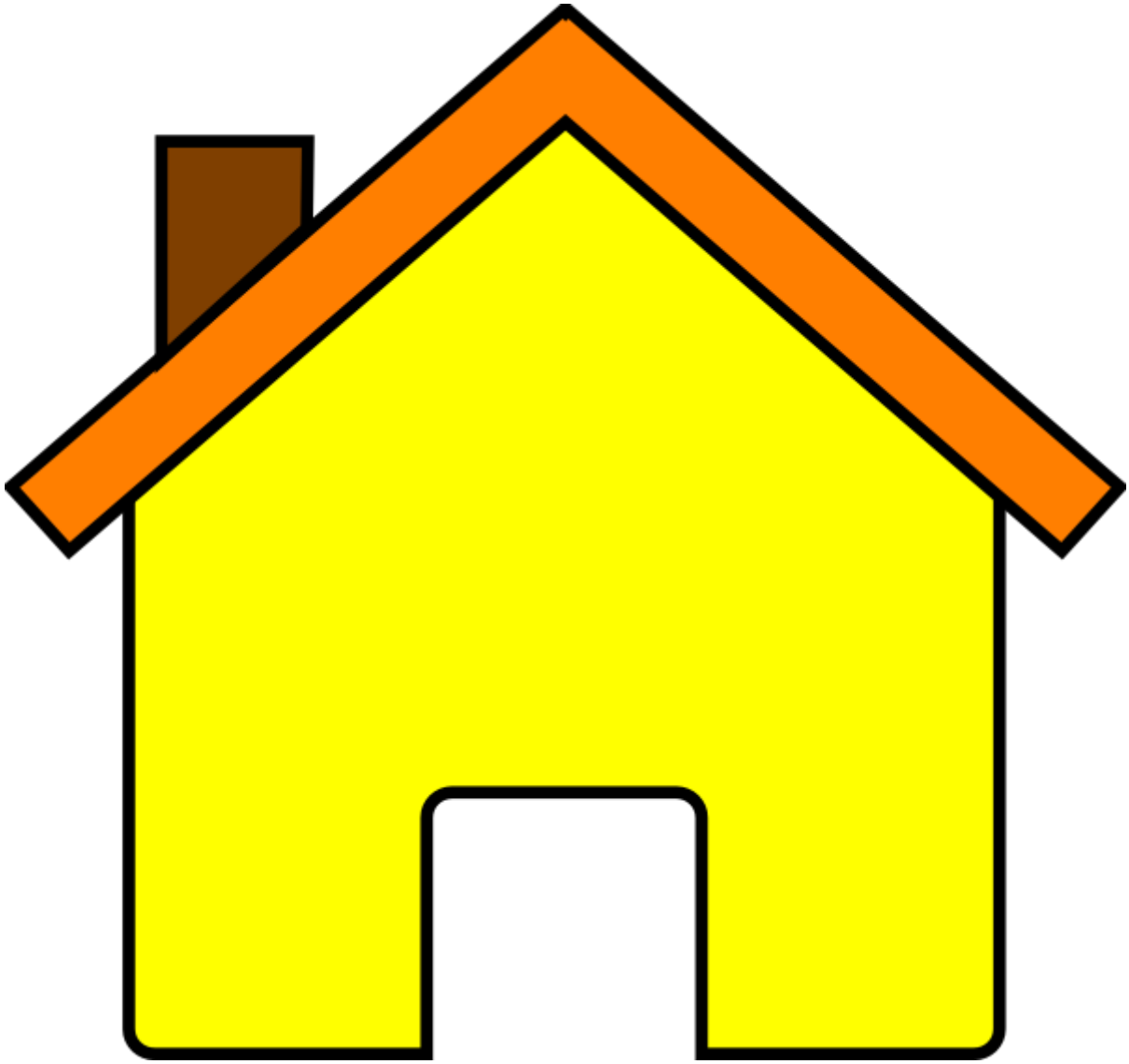
Add the text that you want to use for your word cloud. I used the following words related to homes.

```
words = 'access guest guest apartment area area bathroom bed bed bed
bed bed bedroom block coffee coffee coffee coffee entrance entry
francisco free garden guest home house kettle kettle kitchen kitchen
kitchen kitchen kitchen kitchen living located microwave
neighborhood new park parking place privacy private queen room san
separate separate shared space space space street suite time
welcome'
```

Step 3:

```
mask =
np.array(Image.open(requests.get('http://www.clker.com/cliparts/O/i/
x/Y/q/P/yellow-house-hi.png', stream=True).raw))
```

To get the custom shape for the word cloud, look for an image that you want to use as a mask. In this example, I used the following image as an outline:
http://www.clker.com/cliparts/O/i/x/Y/q/P/yellow-house-hi.png



Step 4:

This function takes in your text and your mask to generate a custom wordcloud.

```
def generate_wordcloud(words, mask):
    word_cloud = WordCloud(width = 512, height = 512, background_color='white', stopwords=STOPWO
    plt.figure(figsize=(10,8),facecolor = 'white', edgecolor='blue')
    plt.imshow(word_cloud)
    plt.axis('off')
    plt.tight_layout(pad=0)
    plt.show()

```

word_cloud_function.py hosted with ♡ by GitHub view raw

Run the following line of code to call the generate_wordcloud function above.

```
generate_wordcloud(words, mask)
```

Your final code should look like this:

```
from wordcloud import WordCloud, STOPWORDS
from PIL import Image
import urllib
import requests
import numpy as np
import matplotlib.pyplot as plt

words = 'access guest guest apartment area area bathroom bed bed bed bed bed bedroom block coff
mask = np.array(Image.open(requests.get('http://www.clker.com/cliparts/O/i/x/Y/q/P/yellow-house

# This function takes in your text and your mask and generates a wordcloud.
def generate_wordcloud(words, mask):
    word_cloud = WordCloud(width = 512, height = 512, background_color='white', stopwords=STOPW
    plt.figure(figsize=(10,8),facecolor = 'white', edgecolor='blue')
    plt.imshow(word_cloud)
    plt.axis('off')
    plt.tight_layout(pad=0)
    plt.show()

#Run the following to generate your wordcloud
generate_wordcloud(words, mask)
```

Have fun making custom word clouds! You can also adjust the color and size to your liking. Feel free to share with me the word clouds you end up creating!