In [ ]:

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#Copyright (C) 2021, Sydney Nwakanma
#May 14th, 2021
# Description: Hello world Python that reads a text file containing English
           #words and uses a Python dictionary to count the frequency of words
#Inputs: input from the keyboard
#Outputs: displays ASCII text to stdout
#Assumptions: written/tested with Python 3.9.1 on Windows
#Dependencies: matplotlib, time, and datetime


import string
from datetime import datetime as dt
import matplotlib.pyplot as plt

def main():
    #start of main
    print("Sydney Nwakanma") #print name
    t = dt.today()
    print(t) #print date


    #open text of US declaration of independence file
    text = open("usdecl.txt", "r")



    #open stopwords file
    text_stop_words = open("stopwords.txt", "r")

    #loop through each line of text
    line_count = 1

    d = dict() #create an empty dictionary


    stopwords = [word.strip().lower().translate(word.maketrans("","",string.punctuation)) for word in text_stop_words]



    for line in text:
        #print("line {} is: {}".format(line_count, line))
        line_count +=1

        line = line.lower() #convert everything to lower case
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        #get rid of the punctutations
        line = line.translate(line.maketrans("","", string.punctuation))


        words = line.split()
        #print("words = ", words, "\n")

        for word in words:
            if word in stopwords:
                continue
            elif word in d:
                #print("word --{}-- is already in the dictionary, its value is {}".format(word, d[word]))
                d[word] += 1
            else:
                d[word] = 1

    N = 15
    top_words = sorted(d, key=d.get, reverse=True)[0:15]
    top_values = [d[i] for i in top_words]

    #plot graph

    plt.rcdefaults()
    fig, ax = plt.subplots()

    x = range(N) #set the output position

    ax.barh(x, top_values, align='center') #make bar plot
    ax.set_yticks(x)
    ax.set_yticklabels(top_words)
    ax.invert_yaxis()  # labels read top-to-bottom
    ax.set_xlabel('Number of Times Word Appears')
    ax.set_title('{0} Most Common Words in the {1}'.format(N, "US Declaration of Independence"))

    plt.show()



if __name__=="__main__":
     main()
```