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In [ ]: #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.rcParams()
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()

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15 Most Common Words in the US Declaration of Independence

