Practice Tutorial Sheet

CSE 101

September 13, 2018

Problem 1. Write a program that accepts a sentence and calculate the number of letters and digits. Suppose the following input is supplied to the program:
hello world! 123
Then, the output should be:
LETTERS 10 DIGITS 3

```
def count(s):
   s = s.lower()
   letter_count = 0
   digit_count = 0
   for char in s:
      if 'a' <= char <= 'z':
         letter_count += 1
      elif '1' <= char <= '9':
         digit_count += 1
   print("Letters = ", letter_count)
   print("Digits = ", digit_count)

def main():
   s = input("Enter the string\n")
   count(s)

main()
```

Problem 2. Write a version of a palindrome recognizer that also accepts phrase palindromes such as "Go hang a salami I'm a lasagna hog.", "Was it a rat I saw?", "Step on no pets", "Sit on a potato pan, Otis", "Lisa Bonet ate no basil", "Satan, oscillate my metallic sonatas", "I roamed under it as a tired nude Maori", "Rise to vote sir", or the exclamation "Dammit, I'm mad!".
Note that punctuation, capitalization, and spacing are usually ignored.

```
import string

def check_palindrome(s):
```

```
    i = 0
    j = len(s)-1
    while( i < j ):
        if s[i] != s[j]:
            return False
        i += 1
        j -= 1
    return True

def preprocess_string(s):
    s = s.lower()
    s = s.replace(' ','')
    for char in string.punctuation:
        s = s.replace(char, '')
    return s

def main():
    s = input("Enter your string\n")
    s = preprocess_string(s)
    if check_palindrome(s):
        print("Palindrome")
    else:
        print("Not palindrome")

main()
```

Problem 3. Write a program to check if two strings are anagrams of each other. [An anagram of a string is a string created by its letters, but not necessarily in the same order] For eg, isAnagram(RAT,TRA) = True but isAnagram(BUILD,GREAT) = False

```
def isAnagram(a, b):
    a = sorted(a)
    b = sorted(b)
    return a == b

def main():
    a = input("Enter first string")
    b = input("Enter second string")
    print(isAnagram(a,b))

main()
```