

# Assignment 3

February 10, 2020

## 1 Assignment 3

### 1.1 Problem 1

Create a python function `summer(n)`. Its single parameter is a positive integer. The function returns the sum of all the integers between 1 and `n` inclusive which are multiples of 3 or 5. Test it with the input values 10, 150, and 975.

```
[30]: def summer(n):
    total = 0
    for i in range(1, (n + 1)):
        if (i % 3 == 0):
            total = total + i
            print(i,"is a multiple of 3")
        elif (i % 5 == 0):
            total = total + i
            print(i,"is a multiple of 5")
    return total

num = 10
print(summer(num),"is the total of all the above multiples in the range from 1_
↳to",num)
```

```
3 is a multiple of 3
5 is a multiple of 5
6 is a multiple of 3
9 is a multiple of 3
10 is a multiple of 5
33 is the total of all the above multiples in the range from 1 to 10
```

```
[35]: def summer(n):
    total = 0
    for i in range(1, (n + 1)):
        if (i % 3 == 0):
            total = total + i
            ##print(i,"is a multiple of 3")
        elif (i % 5 == 0):
            total = total + i
```

```

        ##print(i,"is a multiple of 5")
    return total

num = 150
print(summer(num),"is the total of all multiples of 3 and 5 in the range from 1_
↳to",num)

```

5325 is the total of all multiples of 3 and 5 in the range from 1 to 150

```

[33]: def summer(n):
    total = 0
    for i in range(1, (n + 1)):
        if (i % 3 == 0):
            total = total + i
            ##print(i,"is a multiple of 3")
        elif (i % 5 == 0):
            total = total + i
            ##print(i,"is a multiple of 5")
    return total

num = 975
print(summer(num),"is the total of all multiples of 3 and 5 in the range from 1_
↳to",num)

```

222300 is the total of all multiples of 3 and 5 in the range from 1 to 975

## 1.2 Problem 2

Write a python program which reads the file “Pride and Prejudice.txt” and produces a list of all of the lines in the file which contain either the word “and” or the word “the”. Be careful to see these words even if they are capitalized. Also be careful to see the first letters of “these” or “there” as the word “the”. Print the first 10 lines in this list.

```

[89]: fHandle = open('Pride and Prejudice.txt','r')

counterLine = 0
counterTime = 1

for line in fHandle:
    line = line.lower().rstrip()
    counterLine = counterLine + 1
    if counterTime > 10:
        break
    elif "the " in line:
        print("Count is",counterTime,"on Line",counterLine,":",line)
        counterTime = counterTime + 1
    elif "and " in line:

```

```

    print("Count is",counterTime,"on Line",counterLine,":",line)
    counterTime = counterTime + 1
else:
    continue

```

Count is 1 on Line 1 : the project gutenber ebook of pride and prejudice, by jane austen

Count is 2 on Line 3 : this ebook is for the use of anyone anywhere at no cost and with

Count is 3 on Line 5 : re-use it under the terms of the project gutenberg license included

Count is 4 on Line 9 : title: pride and prejudice

Count is 5 on Line 21 : \*\*\* start of this project gutenberg ebook pride and prejudice \*\*\*

Count is 6 on Line 32 : pride and prejudice

Count is 7 on Line 44 : however little known the feelings or views of such a man may be on his

Count is 8 on Line 45 : first entering a neighbourhood, this truth is so well fixed in the minds

Count is 9 on Line 46 : of the surrounding families, that he is considered the rightful property

Count is 10 on Line 54 : "but it is," returned she; "for mrs. long has just been here, and she

```

[90]: fHandle = open('Pride and Prejudice.txt',"r")

counterLine = 0 ## counts the actual line number
counterTime = 1 ## counts the lines with 'and ' 'the ' in them to not go over 10
theAndList = []

for line in fHandle:
    line = line.lower().rstrip()
    counterLine = counterLine + 1
    if counterTime > 10:
        break
    elif "the " in line:
        theAndList.append(line)
        ##print("Count is",counterTime,"on Line",counterLine,":",line)
        counterTime = counterTime + 1
    elif "and " in line:
        theAndList.append(line)
        ##print("Count is",counterTime,"on Line",counterLine,":",line)
        counterTime = counterTime + 1
    else:
        continue

for i in theAndList:

```

```
print(i)
```

```
the project gutenber ebook of pride and prejudice, by jane austen  
this ebook is for the use of anyone anywhere at no cost and with  
re-use it under the terms of the project gutenber license included  
title: pride and prejudice  
*** start of this project gutenber ebook pride and prejudice ***  
pride and prejudice  
however little known the feelings or views of such a man may be on his  
first entering a neighbourhood, this truth is so well fixed in the minds  
of the surrounding families, that he is considered the rightful property  
"but it is," returned she; "for mrs. long has just been here, and she
```