**Basic** 1. Check what's the type of the following values in the **python:**

|  |  |
| --- | --- |
| **1** | Integer |
| **3.14** | Floating point number |
| **“Big Data!”** | Strings |
| **‘Big Data’** | Strings |
| **True** | Bool |
| **False** | Bool |
| **[1,2,"intruder",3]** | List |

2. Write a script that prints the integers from 1 to 100. For multiples of three print "Fizz" instead

, and for the multiples of five print "Buzz". For numbers which are multiples of both print "FizzBuzz".

**Solution:**

for numb in range(0,101):

if numb % 3 == 0 and not numb % 5 == 0:

print ("fizz")

elif numb % 5 == 0 and not numb % 3 == 0:

print ("buzz")

elif numb % 3 == 0 and numb % 5 == 0:

print ("FIZZBUZZ")

else:

print (numb)

3. Could you find the maximum or minimum integer value in a list. If we list all the natural

numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23. Find the sum of all the multiples of 3 or 5 below 1000.

**Solution:**

total\_sum = 0

for i in range(1000):

if (i%3 == 0 or i%5 == 0):

total\_sum = total\_sum + i

print (total\_sum)

**Anwer =233168**

4. Write a script that takes out all the vowels and response with shortened version the string.

Your script should not be case sensitive.

**Solution:**  def rem\_vowel(string):

vowels = ('a', 'e', 'i', 'o', 'u')

for x in string.lower():

if x in vowels:

string = string.replace(x, "")

# Print string without vowels

print(string)

# Driver program

string = "GeeksforGeeks - A Computer Science Portal for Geeks"

string = string.lower()

rem\_vowel(string)

**Advanced**

1. Write a Python program to count the number of characters (character frequency) in a string.

The expected results are two options: [Example: Babak Khosravifar]

○ Sorted by alphabetical order [{‘a’:4, ‘b’:2, ‘f’:1, ‘i’:1, .....}]

○ Sorted by the repetition of characters in descending order [{‘a’:4, ‘b’:2, ‘k’:2, ‘r’:2, .....}]

name = "Akaljot singh Grewal"

character\_freq = {}

for x in name:

if x in character\_freq:

character\_freq[x] += 1

else:

character\_freq[x] = 1

print("Count of all characters in name is :\n"+ str(character\_freq))

1. Write a Python program to count the occurrences of each word in a given sentence.

**Solution:**

def word\_count(str):

counts = dict()

words = str.split()

for word in words:

if word in counts:

counts[word] += 1

else:

counts[word] = 1

return counts

print( word\_count('the quick brown fox jumps over the lazy dog.'))

3. Write a Python program that accepts a comma separated sequence of words as input and

prints the unique words in sorted form (alphanumerically)

**Solution:**

items = input("Input comma separated sequence of words")

words = [word for word in items.split(",")]

print(",".join(sorted(list(set(words)))))

**Reach**

1. Write a program that reads two lists of numbers (4 items minimum) and merge them by sorting them out ignoring duplicates

2. Improve the previous code by ignoring the ones that could be written as a linear combination

of any other two numbers (13=2\*5+1\*3), so if 3 and 5 are there, you should drop 13 if seen.