Check what's the type of the following values in the python:

○ 1 is **Integer**

○ 3.14 is **Float**

○ "Big Data!" is **String**

○ 'Big Data!' is **String**

○ True is **Boolean**

○ False is **Boolean**

○ [1,2,"intruder",3] is **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".

```
for numbers in range(0,101):
    if numbers % 3 == 0 and not numbers % 5 == 0:
        print ("fizz")
    elif numbers % 5 == 0 and not numbers % 3 == 0:
        print ("buzz")
    elif numbers % 3 == 0 and numbers % 5 == 0:
        print ("FIZZBUZZ")
    else:
        print (numbers)
```

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.

```
multiple_sum = 0
```

```
for i in range(1000):
    if (i%3 == 0 or i%5 == 0):
        multiple_sum = multiple_sum + i
print (multiple_sum)
```

4.

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

Your script should not be case sensitive.

```
def remove_vowels(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)
string = "BestBuy - Most Comprehensive Electronics Business Warehouse"
string = string.lower()
remove_vowels(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,

.....}]

```
def check_frequency(str):
    frequency = {}
```

```
    for character in str:
        frequency[character] = str.count(character)
    return frequency
check_frequency("Barjesh Arora")
```

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

```
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('Usain Bolt is the fastest runner in the world'))
```

3. Write a Python program that accepts a comma separated sequence of words as input and prints the unique words in sorted form (alphanumerically)

```
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

```
first_list = [1, 2, 2, 5]
second_list = [2, 5, 7, 9]
```

resultList= list(set(first_list) | set(second_list))

print(resultList)

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.