**Assignment 02**

**Q1. Write a program to take out the element from their index values:**

**x = [1 , 2 , 3 , 4 , [10 , 20 , 30 , 40 , [100 , 200 , 300 , 400] , "riyazulhaque", 5 + 5j] , 4000]**

* **[10, 20]**
* **(5+5j)**

x[4][6]

* **[300, 400]**
* **[40, [100, 200, 300, 400], “riyazulhaqu”]**

**Q2. Write a program to take out the pair of numbers whose sum is equal to an even number. You should return the list from the range of 1 to 21.**

**Example: x=[1,2,3,4,5]**

**Pair should be (2,4) this will return the sum as 6 which is even.**

num1 = int(input("Enter a number: "))

num2 = int(input("Enter a number: "))

if num1 and num2 in range(1,21):

if (num1 + num2)%2 == 0:

print("Sum is an even number.")

else:

print("Sum is an odd number.")

**Q3. Write a program to calculate the frequency of any special character if that exist in any string.**

**Example: x=”hello&\*$$world”**

**Answer should be {‘&’:1, ‘\*’:1, ‘$’:2}**

char="hello&\*$$world"

f={x:char.count(x) for x in char}

print(f)

**Q4. Write a program to print the list of numbers which has a cube of odd numbers in the range of 1, 50.**

cube = []

for x in range(1,50):

if x % 2 !=0:

cube.append(x\*\*3)

print(cube)

**Q5. Write a program to print the copy of list which has all the element multiplied by 3 but it should not reflect the result to the original list.**

original\_list = [2,3,4,5,6]

copy\_list = [i \* 3 for i in original\_list]

print(copy\_list)

print(original\_list)

**Q6. Write a program to calculate the length of each word in the sentence.**

**Example: x= “Hello world I am learning python”**

**Now length of hello is 5.**

map(len, x.split()) #for version 2

list(map(len, x.split())) #for version 3

**OR**

[len(x) for x in x.split()]

**Q7. Write a program to return True if the list consist only integer values only and if not return False.**

list = [1, 2, 3, 4]

if all(isinstance(item, int) for item in list):

print True

else:

print False

**OR**

list = [1, 2, 3, 4]

all(type(item)==int:

print True

else:

print False