**TASK SIX:**

**GENERATOR, LIST COMPREHENSION AND DECORTORS**

1.Write a program to Python find out the character in a string which is uppercase

using list comprehension.

my\_str = "United States of America"

# Using list comprehension + isupper()

res = [char for char in my\_str if char.isupper()]

# printing result

print("Extracted upper case characters : " ,res)

Output:



2. Write a program to construct a dictionary from the two lists containing the

names of students and their corresponding subjects. The dictionary should maps

the students with their respective subjects. Let’s see how to do this using for loops

and dictionary comprehension. HINT-Use Zip function also

● Student = [&#39;Smit&#39;, &#39;Jaya&#39;, &#39;Rayyan&#39;]

● capital = [&#39;CSE&#39;, &#39;Networking&#39;, &#39;Operating System&#39;]

student = ["&#39;Smit&#39;", "&#39;Jaya&#39;", "&#39;Rayyan&#39;"]

capital = ["&#39;CSE&#39;", "&#39;Networking&#39;", "&#39;Operating System&#39;"]

# mapping using dictionar comphrenssion

dic = {key:value for key, value in zip(student, capital)}

print(dic)

Output:



3. Learn More about Yield, next and Generators

4. Write a program in Python using generators to reverse the string. Input String

= “Consultadd Training”

def reverse(string):

string = string[::-1]

yield string

s = "Consultadd Training"

print ("The original string is : ",end="")

print (s)

print ("The reversed string(using extended slice syntax) is : ",end="")

print (''.join(reverse(s)))

Output:



5. Write any example on decorators.

import math

def foo(func):

print("The function " + func.\_\_name\_\_ + " was passed to foo")

res = 0

for x in [1, 2, 2.5]:

res += func(x)

return res

print(foo(math.sin))

print(foo(math.cos))

Output:

