**ASSIGNMENT 14**

Q1. Is an assignment operator like += only for show? Is it possible that it would lead to faster results at the runtime?

Ans: Assignment operator += is easily readable and reduces the complexity of the code. Moreover, this is slightly faster than then the conventional assignment operator, hence lead to faster results.

Q2. What is the smallest number of statements you have to write in most programming languages to replace the Python expression a, b = a + b, a?

Ans: The smallest number of statements to replace a,b=a+b,a in any other programming language is 4. First two lines will create and give value to a and b variables and then two lines will do a=a+b, b=a.

Q3. In Python, what is the most effective way to set a list of 100 integers to 0?

Ans: Suppose we have a list=[1,2,3,4,5.........100] then we can set it to 0 by simply list=[0].

Q4. What is the most effective way to initialize a list of 99 integers that repeats the sequence 1, 2, 3? If necessary, show step-by-step instructions on how to accomplish this.

Ans: We can achieve the desired by the following code:

list1=[] #initializing list

i=0

while i<99: #number of integers

for j in range(1,4): #append 1,2,3 for every i where i is incremented by 3 in while loop.

list1.append(j)

i+=3

print(list1)

Q5. If you’re using IDLE to run a Python application, explain how to print a multidimensional list as efficiently?

Ans: To print a multidimensional list we can use for loop or using print statement directly

Q6. Is it possible to use list comprehension with a string? If so, how can you go about doing it?

Ans: Yes, it is possible to use list comprehension with a string. For example, if we have a string str1=’hello’, and we have to convert it to the list we can use list comprehension as follows: list1=[I for I in str1].

Q7. From the command line, how do you get support with a user-written Python program? Is this possible from inside IDLE?

Ans: If we want to get help from the python IDLE we can simply type help() or help(object) and then enter.

Q8. Functions are said to be “first-class objects” in Python but not in most other languages, such as C++ or Java. What can you do in Python with a function (callable object) that you can’t do in C or C++?

Ans: In python we can pass functions as arguments to other functions and as well get them in return. However, in other languages like C or C++ it is not possible without advance modifications to the functions.

Q9. How do you distinguish between a wrapper, a wrapped feature, and a decorator?

Ans: Wrapper and decorator are both same in functionality. Wrapper is the second name of decorator. It adds additional functionality to the existing function. A wrapped feature is a different functionality of the wrapper functions.

Q10. If a function is a generator function, what does it return?

Ans: A generator function return the iterator object with different values.

Q11. What is the one improvement that must be made to a function in order for it to become a

generator function in the Python language?

Ans: To make a function a generator function we have to convert the return statement to a yield statement.

Q12. Identify at least one benefit of generators.

Ans: Generators are memory efficient we can get infinite number of values from a generator function using while loop and setting it to always true.