Assignment – II

Problem Solving with Python

1. Write a program to get the sum of comma-separated numbers. If the sum is more than 100 print 0 or prints the actual sum.
2. Write a program to accept two comma-separated strings. Create and print a new string by appending two copies of the first string and five copies of the second string.
3. Take an input ‘n’ from the user and print the following pattern without using a second loop. ‘n’ is the number of lines in the pattern.

```
* * * * * * * * * *
* * * *     * * * *
* * *         * * *
* *             * *
*                 *
```

4. Write a code to check whether the product of digits at even places is divisible by the sum of digits at the odd place of a positive integer..
5. Write a program to produce the following patterns for the given input n, in the example below n = 3.

```
3 3 3 3 3
3 2 2 2 3
3 2 1 2 3
3 2 2 2 3
3 3 3 3 3
```

6. Take a N numbers from the user in comma- separated format. Store them into a list and reverse it.
7. Given a list of integers with duplicate elements in it. The task to generate another list, which contains only the duplicate elements. In simple words, the new list should contain the elements which appear more than once.

   Input : list = [10, 20, 30, 20, 20, 30, 40, 50, -20, 60, 60, -20, -20]
   Output : output_list = [20, 30, -20, 60]

   Input : list = [-1, 1, -1, 8]
   Output : output_list = [-1]

8. Given an unsorted array **A** of size **N** of non-negative integers, find a continuous sub-array which adds to a given number **S**.
9. Given an array **C** of size **N-1** and given that there are numbers from **1** to **N** with one element missing, the missing number is to be found.
10. Find the sum of all the single-digit numbers embedded in a string.
    Sample input: 2quick5foxes7jump.
    Expected output is 14.

11. Given a string, write a python program to check if it is a palindrome or not. A string is said to be palindrome if the reverse of the string is same as string. For example, “radar” is a palindrome, but “radix” is not a palindrome.
12. Give an alternate method to the above question using list comprehensions.
13. Write a program to replace all subsequent occurrences of the first character of a given string with another given character (#).

    Sample input: jumping jack.
    Expected output: jumping #ack.

14. Write a program that accepts a string and calculate the number of digits and alphabets.