Practice Sheet

1. Write a python code of a program that reads the values for the three sides x, y, and z of a triangle, and then calculates its area. . The area is calculated as follows:

Area = $s\sqrt{(s-x)(s-y)(s-z)}$ **where s =** $\frac{x+y+z}{2}$

2. Write Python code of a program that reads three numbers form user and print the greatest number among three numbers.

3. Write Python code of a program that reads three sides of a triangle and check whether the triangle is valid or not.

4. Three conditions are used to identify leap years:

I. The year can be evenly divided by 4, is a leap year, unless

II. The year can be evenly divided by 100, it is NOT a leap year, unless:

III. The year is also evenly divisible by 400. Then it is a leap year.

For example, the years 2000 and 2400 are leap years, while 1800, 1900, 2100, 2200, 2300 and 2500 are NOT leap years.

Write Python code of a program that reads a number as year and determine whether it is a leap year or not.

5. Write a Python program that reads a number and find the sum of the series of

1 +11 + 111 + 1111 + ….+N terms.

Example:

Sample Input : 5

Sample Output :

1 + 11 + 111 + 1111 + 11111

The Sum is : 12345

6. Write a Python program that reads a number and display the multiplication table of the given integer.

Example :

Sample Input : 15

Sample Output :

15 X 1 = 15

15 X 2 = 30

...

...

15 X 10 = 150

7. Write a python program that prints alphabet pattern 'Z' of size N using * where N will be given as input.

Sample Input: 7

Sample Output:

```
*******
      *
     *
    *
   *
  *
*******
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8. Write a python program that takes integer inputs from the user until the user gives "Stop". Print average and product of all numbers

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9. Write a Python program to count the total number of alphabets, digits and special characters in a string.

Sample Input:

Welcome to geeksforgeeks.com

Sample Output:

Number of Alphabets in the string is : 25
Number of Digits in the string is : 0
Number of Special characters in the string is : 3

10. Write a Python program to find the largest and smallest word in a string.

Sample Input :

It is a string with the smallest and largest word.

Sample Output :

The largest word is “smallest”
and the smallest word is 'a'
in the string : 'It is a string with the smallest and largest word.'.

11. Write a Python program that takes two strings from the user . Then remove characters from the first string which are present in the second string.**[Avoid built-in function]**

Sample Input:

India is great

is

Sample Output:

da s great

12. Write a Python program to Capitalize the first character of each word in a String **[You cannot use the built-in upper() function]**

Sample Input:

I love python programming

Sample Output:

I Love Python Programming

13. Write a Python program that takes a list of numbers separated by comma(“,”) as input of a List A(Without using loop).Multiply the numbers and print the product.**[Hint:You can use split()]**

Sample Input:

1,2,3,4,5

Sample output:

Product :120

14. Write a Python program that takes two lists from the user. Print both lists simultaneously such that list1 should display items in original order and list2 in reverse order.

Sample Input:

List1 = [10,20,30,40]

List2 = [100,200,300,400]

Sample Output:

10 400

20 300

30 200

40 100

15. Write a Python program to reverse strings in a given list of string values.

Sample Input:

['Red','Green','Blue','White','Black']

Sample Output:

['deR', 'neerG', 'eulB', 'etihW', 'kcalB']

16. Write a Python program that takes a list from the user .Then find **the first even** and **first odd** number in the list .

Sample Input:

[1, 3, 5, 7, 4, 1, 6, 8]

Sample Output:

First Even:4 and First Odd:1

17. Write a Python program that takes a list A and a number as input from the user .Create a list by concatenating the input list which range goes from 1 to n.

Sample input:

A = ['p', 'q']

N = 5

Sample Output:

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['p1', 'q1', 'p2', 'q2', 'p3', 'q3', 'p4', 'q4', 'p5', 'q5']