Date:- 06/08/25

Task1:- Running Python script and various expressions in an interactive interpreter key terms covered: Introduction to Python, commands, script.

1.1 Karan spent ₹150 on books, ₹220 on groceries, and ₹90 on transport. Help him calculate the total expenses.

Aim:-

To write a Python Program that calculates the total amount spent by Karan on books, groceries and transport.

Algorithm:-

1. Start the Program.
2. Accept the amount spent on books, groceries and transport.
3. Calculate the total expenses by summing all three amounts.
4. Display the total amount spent.
5. End the Program.

Program:-

```
# Program to calculate total expenses of karan.

# step 1: Assign Expenses.
  books = 150.
  groceries = 220.
  transport = 90.
# step 2: calculate total.
  total_expense = books + groceries + transport.

# step 3:- Display the result.
Print ("Total expenses incurred by karan: ₹", total_
                                              expense).
```

Sample Input:

Books = ₹150.
Groceries = ₹220.
Transport = ₹90.

Sample output:

Total expenses incurred by karan: ₹460.

Result:-

Thus the ~~total~~ amount spent by Karan on books, groceries and transport are found.

Date: 04/08/25

1.2 write a BMI calculator. Ask the user for weight (kg) and height (m), then calculate and display their BMI.

Aim:-

To write a Python Program that calculates and displays the body mass Index (BMI) of a Person using their weight and height.

Algorithm:-

1. Start the Program.
2. Prompt the user to input their weight in kilograms.
3. Prompt the user to input their height in meters.
4. Calculate BMI using the formula:

$$BMI = \frac{weight}{height^2}$$

5. Display the calculated BMI.
6. End the Program.

Result:- Thus, the body mass Index of a Person using their weight (kg) and height (m) are Proved.

Program:-

```
# BMI calculator.
# step 1: Get input from the user.
weight = float (input ("Enter your weight in kilograms: "))
height = float (input ("Enter your height in meters: "))
# step 2: calculate BMI.
  bmi = weight / (height ** 2)
# step 3:- Display result.
  Print ("Your Body mass Index (BMI) is: " round (bmi, 2))
```

Sample Input:-

Enter your weight in kilograms: 70.

Enter your height in meters: 1.75.

Sample output:-

Your Body mass Index (BMI) is: 22.86.

Program:-

```
import math.
# step 1: Assign side lengths.
a = 8
b = 6
c = 4
# step 2: calculate semi-perimeter.
s = (a+b+c)/2.
# step 3:- Apply Heron's formula.
area = math.sqrt(s * (s-a) * (s-b) * (s-c)).
#step 4:- Display result.
Print ("The area of the triangle is:", round(area,2),
                                    "square cm").
```

Sample Input:

side a = 8cm

side b = 6cm

side c = 4cm.

Sample output

The area of the triangle is: 11.62 square cm.

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1.3 Lava wants to calculate the area of a scalene triangle with sides of length 8cm, 6cm and 4cm. Help her write a Python Program that computes the area using Heron's formula.

Aim:-

To write a Python Program to find the area of a triangle when the lengths of all three sides are given, using Heron's formula.

Algorithm:-

1. Start the Program.
2. Accept or assign the lengths of the three sides: a, b and c
3. Calculate the semi-Perimeter:

$$s = \frac{a+b+c}{2}.$$

4. use Herons formula to calculate the area:

$$\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}.$$

5. Display the area of triangle.
6. End the Program.

EL TECH - CSE	
NO.	1
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	3
VIVA VOCE (3)	3
RECORD (4)	4
TOTAL (15)	15
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Result:-

Thus, the area of triangle when the length of all three sides are Proved by heron's formula.