

Task NO: 1a

Date: 6/8/25

Running Python Script and Various Expressions in an Interactive Interpreter.

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.

Result:

The program was successfully executed and the total amount spent by Karan was calculated and displayed as expected.

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)

Input:

Books = ₹ 150

Groceries = ₹ 220

Transport = ₹ 90

Output:

Total expenses incurred by karan: ₹ 460

Date: 6/8/25

Aim: To write a Python program that calculate and displays the Body Mass Index (BMI) of a person using their weight (in kilograms) and height (in meters).

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 the BMI using the formula:

$$BMI = \frac{\text{Weight}}{\text{height}^2}$$

(Note: The formula is used to calculate BMI)

5. Display the calculated BMI

6. End the program.

Result:

The program was successfully executed and the total Body mass Index of a person was calculated and displayed as expected.

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))

Input:

Enter your weight in kilograms: 70

Enter your height in meter: 1.75

Output:

Your Body Mass Index (BMI) is:

Aim: To write python program to find the area of 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 heron's formula to calculate the area:

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

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

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Result:

The program was successfully executed and the area of the triangle using Heron's formula was calculated and displayed as expected.

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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

$$\text{area} = \text{math.sqrt}(s * (s - a) * (s - b) * (s - c))$$

Step 4: Display result

Print("The area of the triangle is", round(area, 2), "square cm")

Input:

Side a :

Side b :

Side c :

Output:

The area of the triangle is :