Date:- 6/8/25 Task-1

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

1.) Karan spent ₹150 on books, ₹220 on groceries and ₹90 on transport. Help him calculate the total expense

Aim:- To write a python program that calculate the total amount spent by karan on books groceries, and transport.

Algorithm:-

Step1:- Start the program

Step2:- Accept the amount spent on books, groceries, and transport.

Step3:- Calculate the total expenses by summing all three amounts.

Step4:- Display the total amount spent

Step5:- End the program.

Same input:

(values are already assigned in the program - no manual input required.)

Books = ₹150.

Groceries = ₹220.

Transport = ₹90.

Same output:

Total expense incurred by Kalan = ₹460.

Python Program:-

Program to calculate total expenses of karan.

Step1:- Design expenses

books = 150

groceries = 220

transport = 90

Step2:- Calculate total

total_expense = books + groceries + transport.

Step3:- Display the result.

Print ("Total expenses incurred by karan:", total_expense)

Result:- Thus, the Python program to calculate all three amounts of expenses successfully verified.

Task 1.b

Write a BMI Calculator Ask the user for weight (kgs) and height (m) then Calculate and display their BMI.

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 metres).

Algorithm

Start 1 :- Start the program

Start 2:- Prompt the use to input their weight in kilograms

Step 3:- Prompt the use to input height in metres.

Step 4:- Calculate BMI using the formula:-

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

Step 5:- Display the Calculated BMI

Step 6:- End the program.

Sample ~~out~~ input

Enter your weight in kilograms: 70

Enter your height in meters: 1.75

Sample output

Your Body Mass Index (BMI): 22.86

Python 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))
```

Result: Thus the the Python Program that Calculate and display the body is successfully verified.

Table.c.

Laya wants to calculate the area of a scalene triangle with side 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

Step1:- Start the program

Step2:- Accept or assign the length of the three sides: a, b and c.

Step3:- Calculate the ~~semi~~ perimeter

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

Step4:- Use Heron's formula to calculate the area.

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

Sample ~~output~~ input.

(values are already assigned)

Side a = 8cm

side b = 6cm

Side c = 10cm

Sample Output

The area of the triangle is:

11.62 Square cm

Step5:- Display the area of the triangle

Step6:- End the program.

Python Program

```
import math.
# step1: Assign side lengths.
a= 8
b=6
c=4.
# step2: Calculate semi-perimeter
    s= (a+b+c)/2
# step3:- Apply Heron's formula.
area =math.sqrt(s*(s-a)*(s-b)*(s-c))
# step4:- Display result.
print("The area of the triangle is:",
                round(area, 2),"Square units")
```

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Result:- Thus, the python program to find area of a triangle when the length of all three sides of ... Successfully verified.