

Experiment - 1.1.4. Area of Triangle

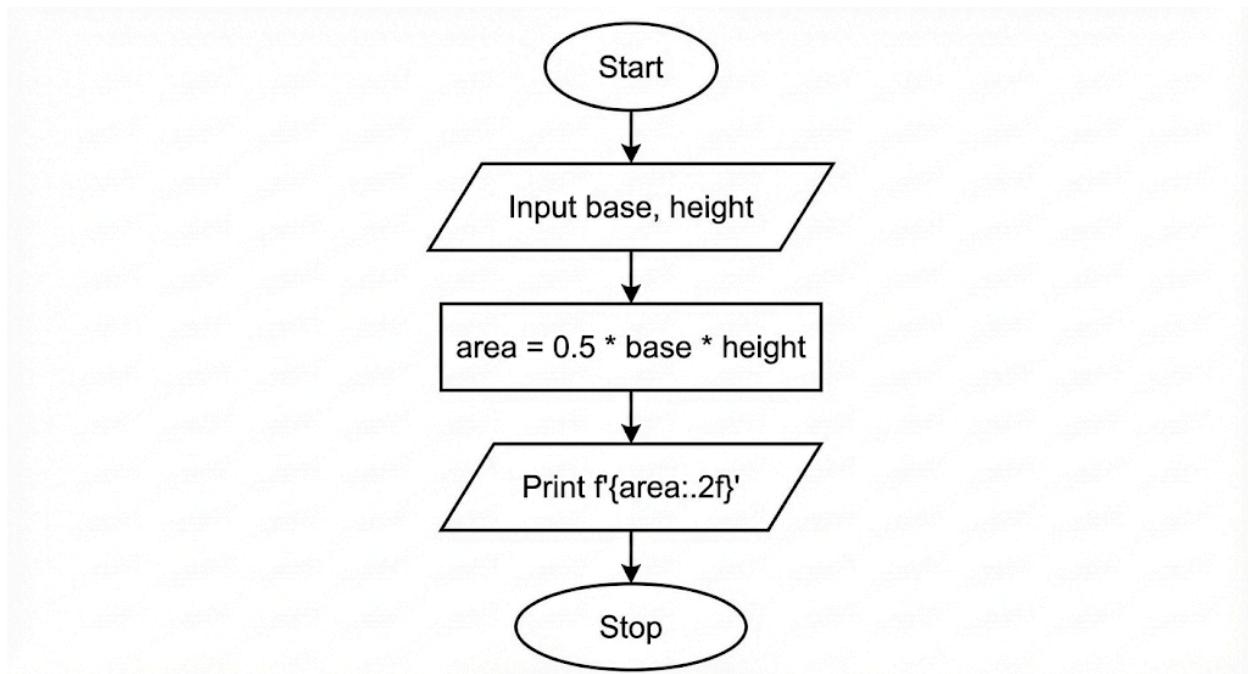
1. Aim

To design and implement a Python program that calculates the area of a triangle. The program prompts the user to enter the base and height as floating-point values and computes the area using the formula $\text{Area} = 0.5 \times \text{base} \times \text{height}$, with the result formatted to two decimal places.

2. Pseudocode

1. **START**
2. **READ** the first input value and store it as a float in the variable **base**.
3. **READ** the second input value and store it as a float in the variable **height**.
4. **CALCULATE** the area using the formula: $0.5 * \text{base} * \text{height}$.
5. **STORE** the result in the variable **area**.
6. **FORMAT** the result to show 2 decimal places.
7. **PRINT** the formatted area.
8. **END**

3. Flowchart



4. Python Program

```
# Program to calculate the area of a triangle
```

```
# Input: Base and Height as float values
# Output: Area formatted to two decimal places
```

```
# Taking inputs from user
```

```
base = float(input())
```

```
height = float(input())
```

```
# Calculating the area
```

```
area = 0.5 * base * height
```

```
# Displaying the output formatted to 2 decimal places
```

```
print(f"{area:.2f}")
```

5. Experiment Screenshot

The screenshot shows the CodeTantra IDE interface. On the left, there's a sidebar with '1.14. Area of Triangle' and some instructions. The main area has a code editor with the following Python script:

```
base = float(input())
height = float(input())
area = 0.5 * base * height
print(f"{area:.2f}")
```

Below the code editor, performance metrics are shown: Average time 0.006 s, Maximum time 0.009 s, and 2 out of 2 shown test case(s) passed. A detailed view of Test case 1 shows expected output 6.54, actual output 6.54, and a comparison table.