

Experiment - 1.1.4. Area of Triangle

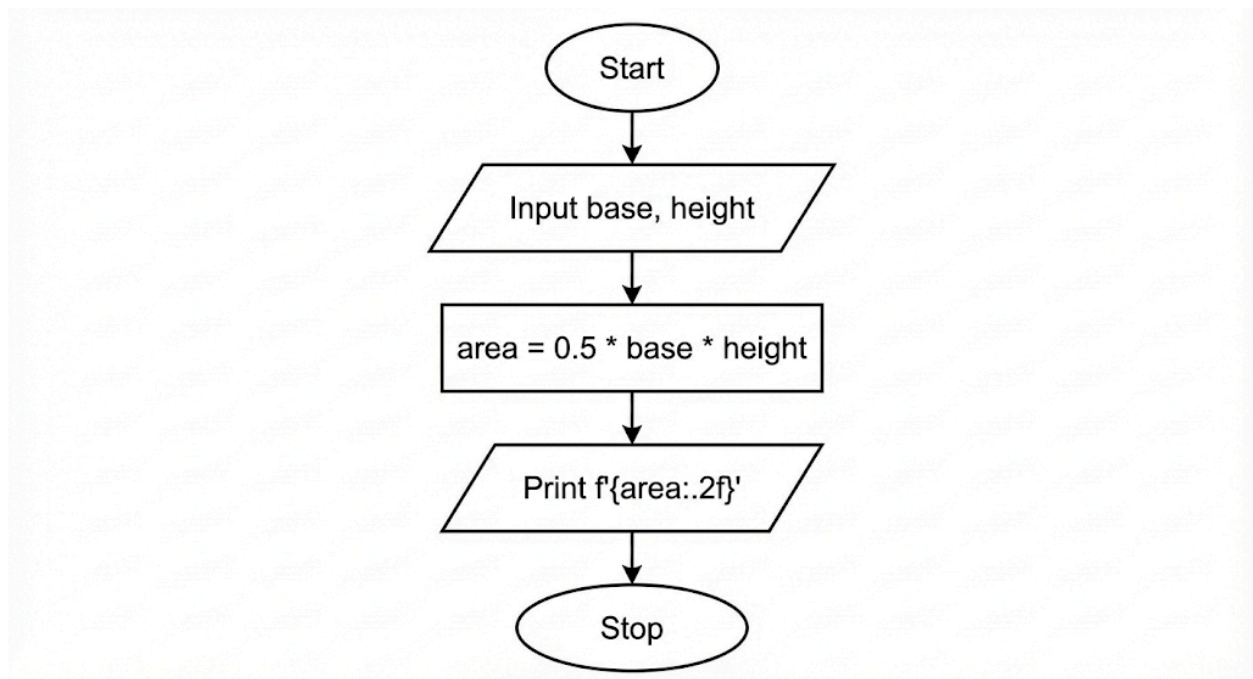
1. Aim

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 $Area = 0.5 \times base \times height$, 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: $0.5 * base * height$.
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 displays the CODETANTRA IDE interface. On the left, the problem description for "1.1.4. Area of Triangle" is shown, including the formula $\text{Area of Triangle} = 0.5 \times \text{base} \times \text{height}$ and input/output format instructions. The main editor shows the following Python code:

```
1 base = float(input())
2 height = float(input())
3
4 area = 0.5 * base * height
5
6 print(f"{area:.2f}")
7
8
```

Below the code editor, the test runner shows the following results:

- Average time: 0.006 s (5.75 ms)
- Maximum time: 0.009 s (9.00 ms)
- 2 out of 2 shown test case(s) passed
- 2 out of 2 hidden test case(s) passed

Test case 1 details:

Expected output	Actual output
6.54	6.54
1.23	1.23

The interface also includes a "Sample Test Cases" input field and navigation buttons at the bottom: Prev, Reset, Submit, and Next.