

Experiment - 1.1.3. Calculate Area of the Square

1. Aim

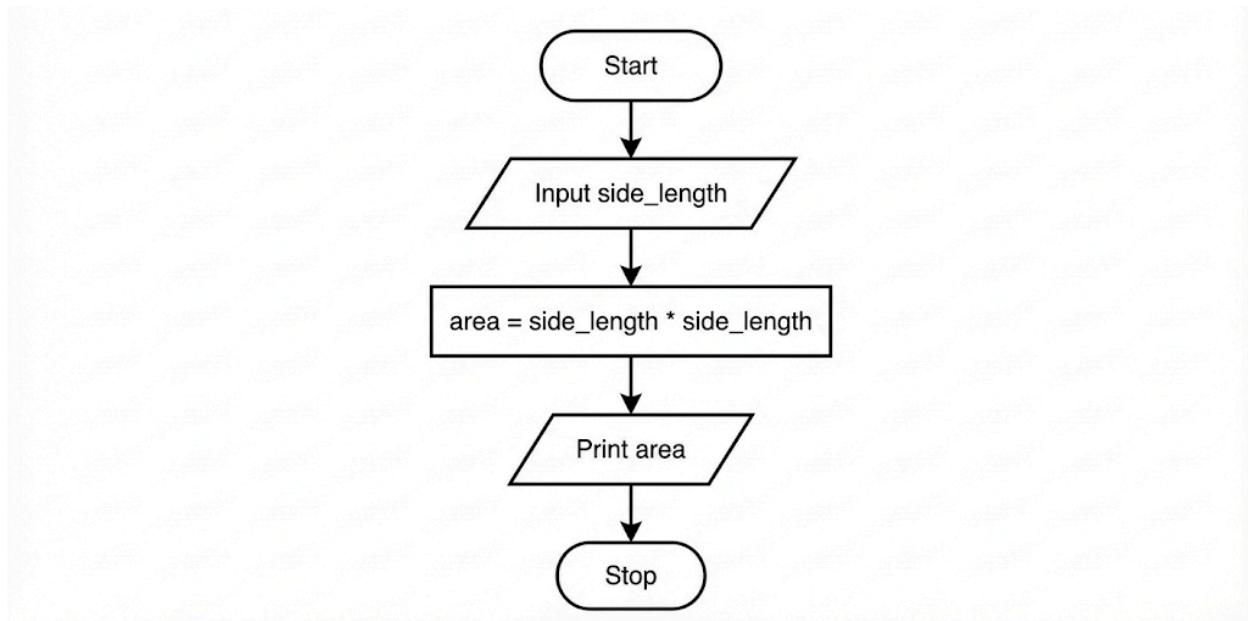
To design and implement a Python program that calculates the area of a square. The program accepts the side_length as an integer input and computes the area using the formula

$$Area = \text{side_length}^2$$

2. Pseudocode

1. **START**
2. **READ** the input value from the user and convert it to an integer.
3. **STORE** this value in the variable side_length.
4. **CALCULATE** the area by multiplying side_length by itself (side_length * side_length).
5. **STORE** the result in the variable area.
6. **PRINT** the value of area.
7. **END**

3. Flowchart



4. Python Program

```
# Program to calculate the area of a square
# Input: side_length as an integer
```

```

# Output: area as an integer

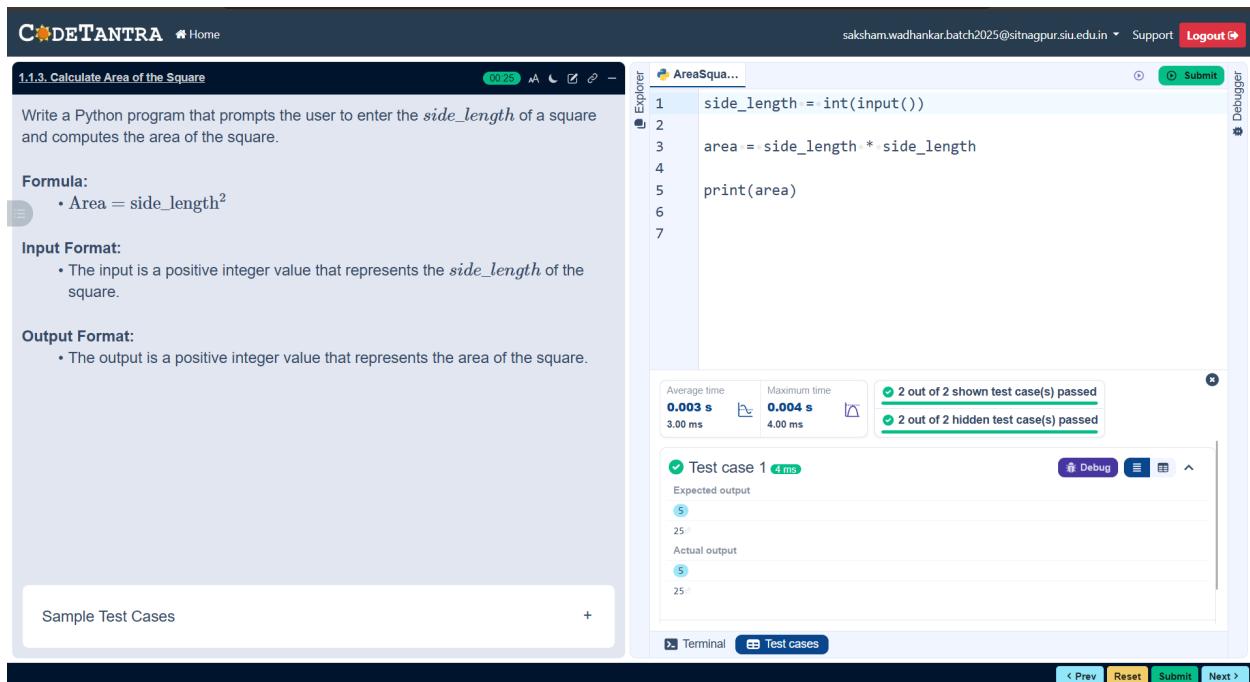
# Taking input from the user
side_length = int(input())

# Calculating area (side * side)
area = side_length * side_length

# Displaying the result
print(area)

```

5. Experiment Screenshot



The screenshot shows the CodeTantra IDE interface. The title bar says "CODETANTRA" and "Logout". The main area has a dark header with "1.1.3. Calculate Area of the Square" and a timer "00:25". Below the header, there's a problem statement: "Write a Python program that prompts the user to enter the *side_length* of a square and computes the area of the square." It includes a "Formula:" section with " $\text{Area} = \text{side_length}^2$ " and "Input Format:" and "Output Format:" sections. The code editor shows a file named "AreaSqua..." with the following code:

```

1 side_length = int(input())
2
3 area = side_length * side_length
4
5 print(area)
6
7

```

The code editor has tabs for "Explorer", "AreaSqua...", and "Debugger". Below the code editor, there's a performance metrics section with "Average time: 0.003 s" (3.00 ms), "Maximum time: 0.004 s" (4.00 ms), and two green success messages: "2 out of 2 shown test case(s) passed" and "2 out of 2 hidden test case(s) passed". A detailed view of "Test case 1" shows "Expected output: 25" and "Actual output: 25". At the bottom, there are buttons for "Terminal", "Test cases", and navigation links like "< Prev", "Reset", "Submit", and "Next >".