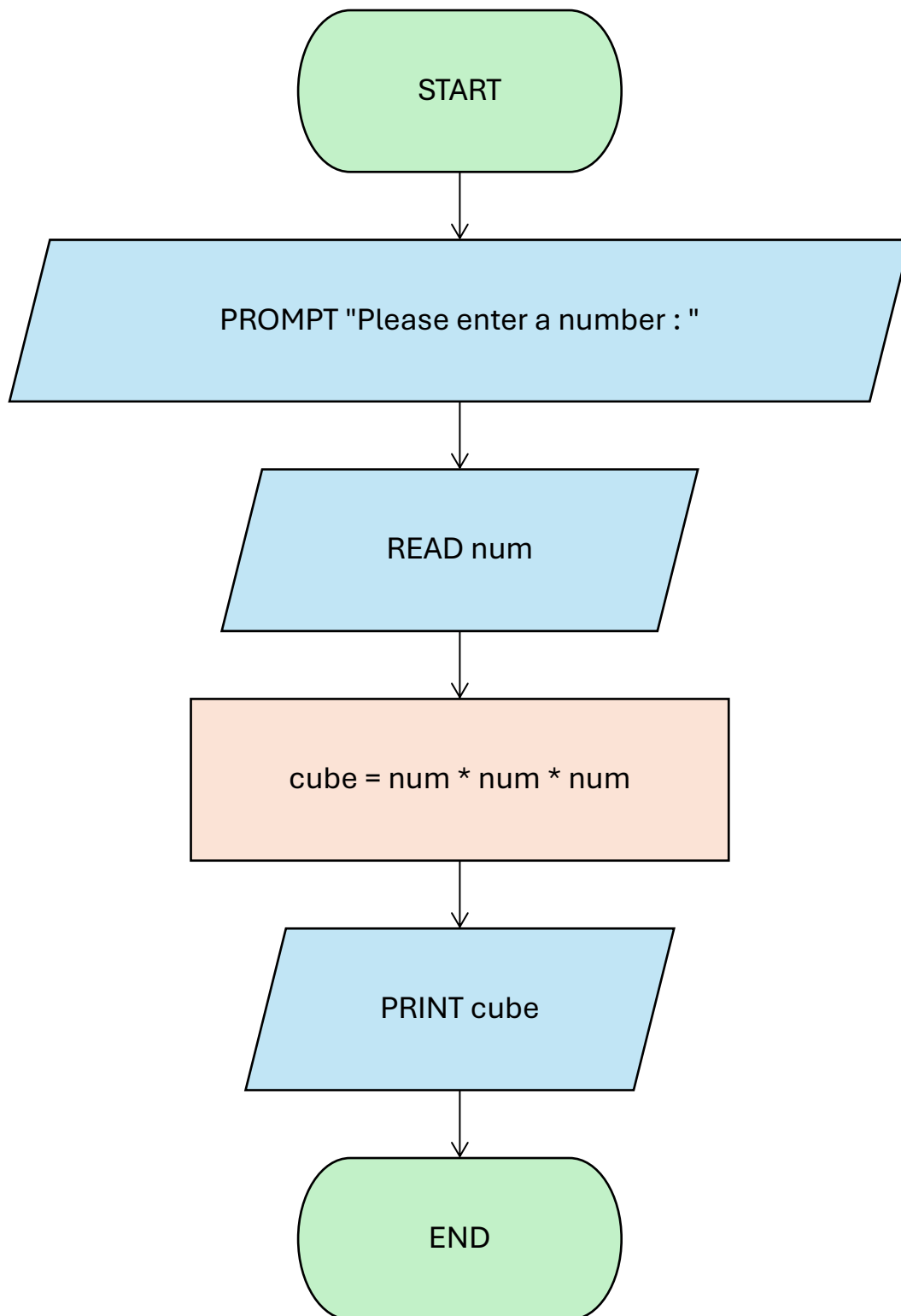❖ 1. Design a flowchart to take a number as input, store it in a variable, and print its cube.

START

PROMPT "Please enter a number : "

READ num

cube = num * num * num

PRINT cube

END

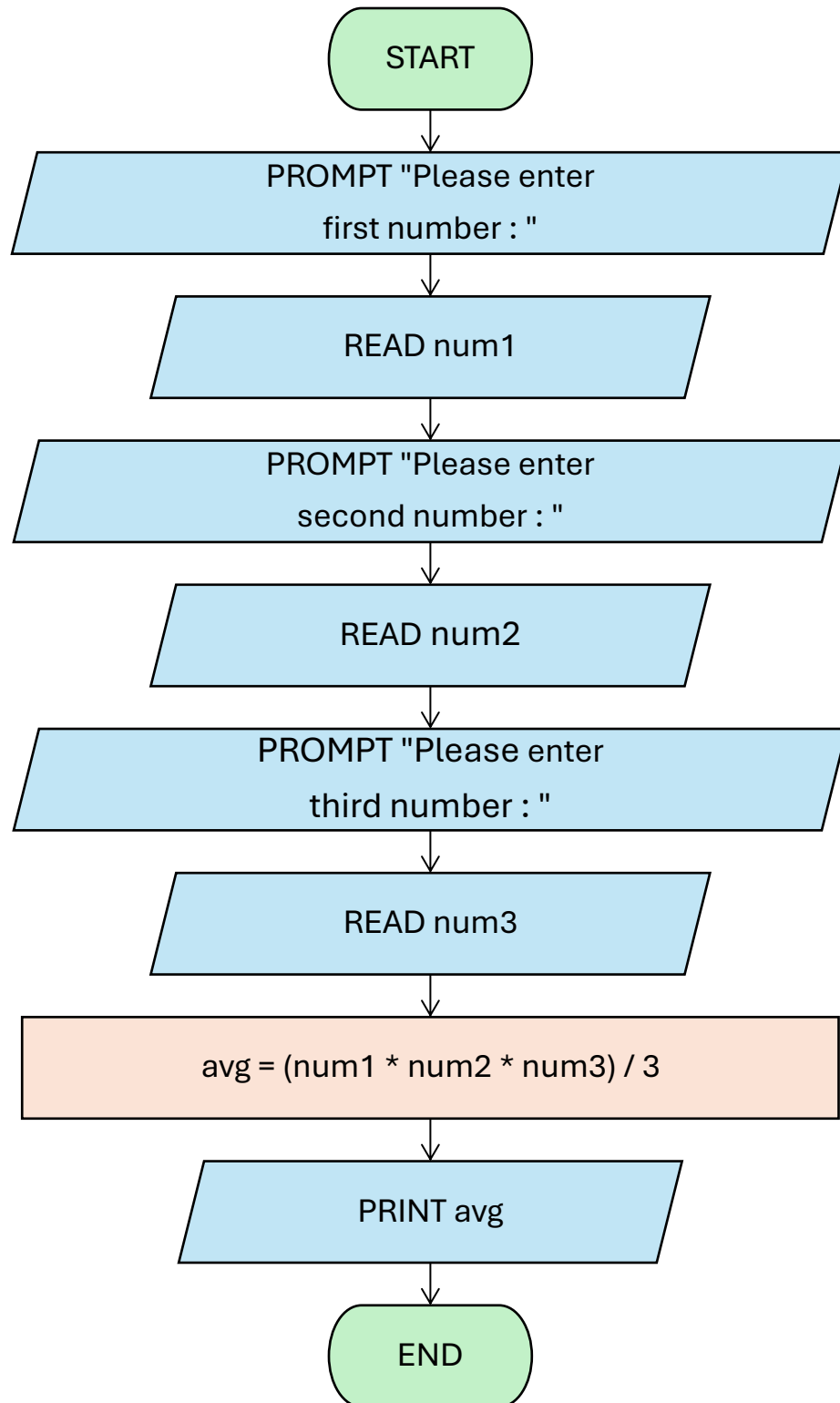❖ 2. Create a flowchart to convert the temperature in Fahrenheit to Celsius. The user should input the temperature in Fahrenheit, and the flowchart should display the corresponding temperature in Celsius. The formula to convert Celsius to Fahrenheit is $C = (F - 32) \times 5/9$

START

PROMPT "Please enter the temprature in Fahrenheit : "

READ fahr

cels = (fahr - 32) * (5 / 9)

PRINT cels

END
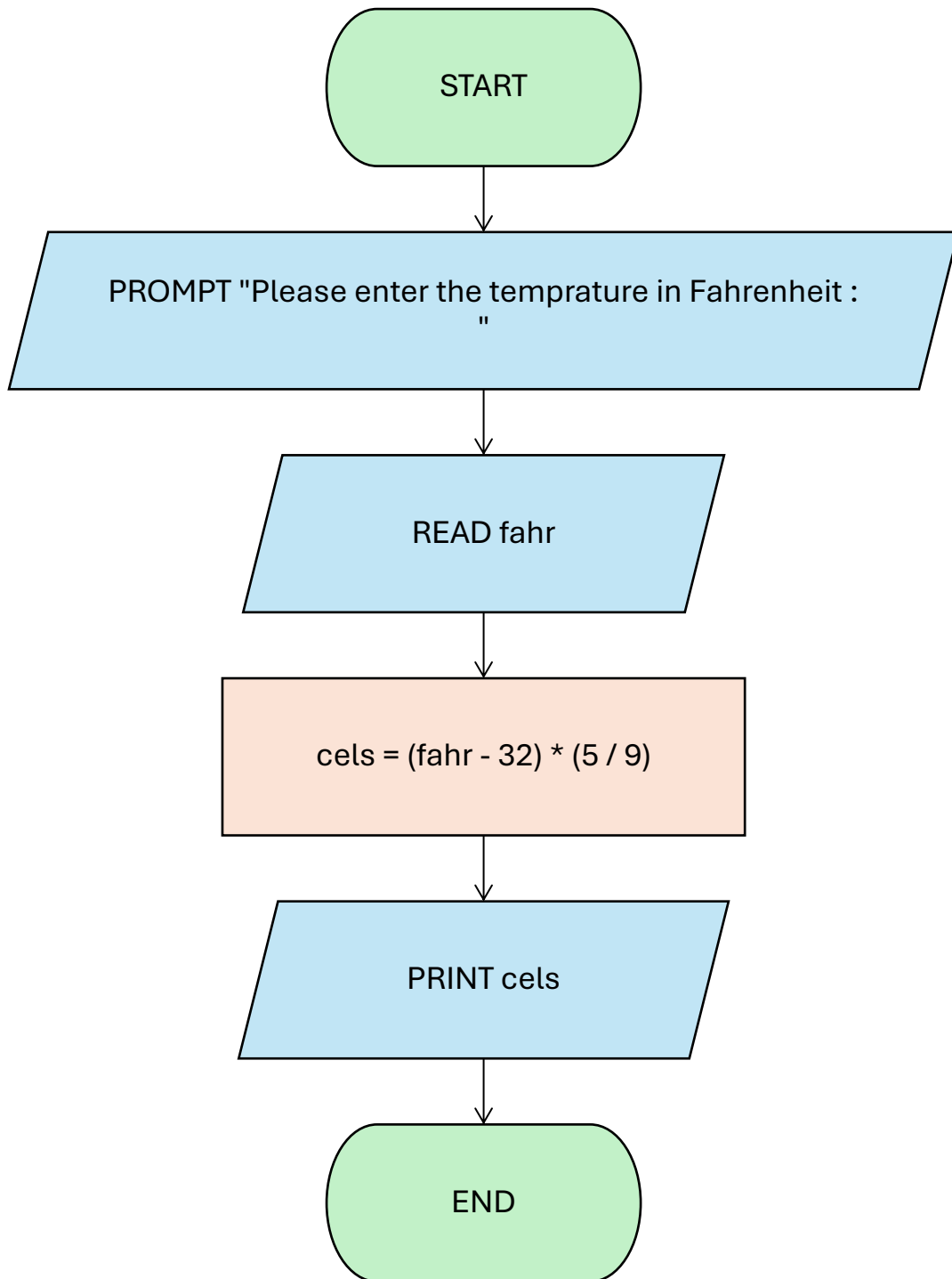
❖ 3. Design a flowchart to take three integers a, b and h as input, where a and b are the length of the parallel sides of a trapezium, h is the distance between the parallel sides, and print the area of the trapezium

START

PROMPT "Please enter length of one parallel side : "

READ a

PROMPT "Please enter length of the other parallel side : "

READ b

PROMPT "Please enter the distance between the parallel sides : "

READ h

area = (1 / 2) *(a + b) * h

PRINT area

END
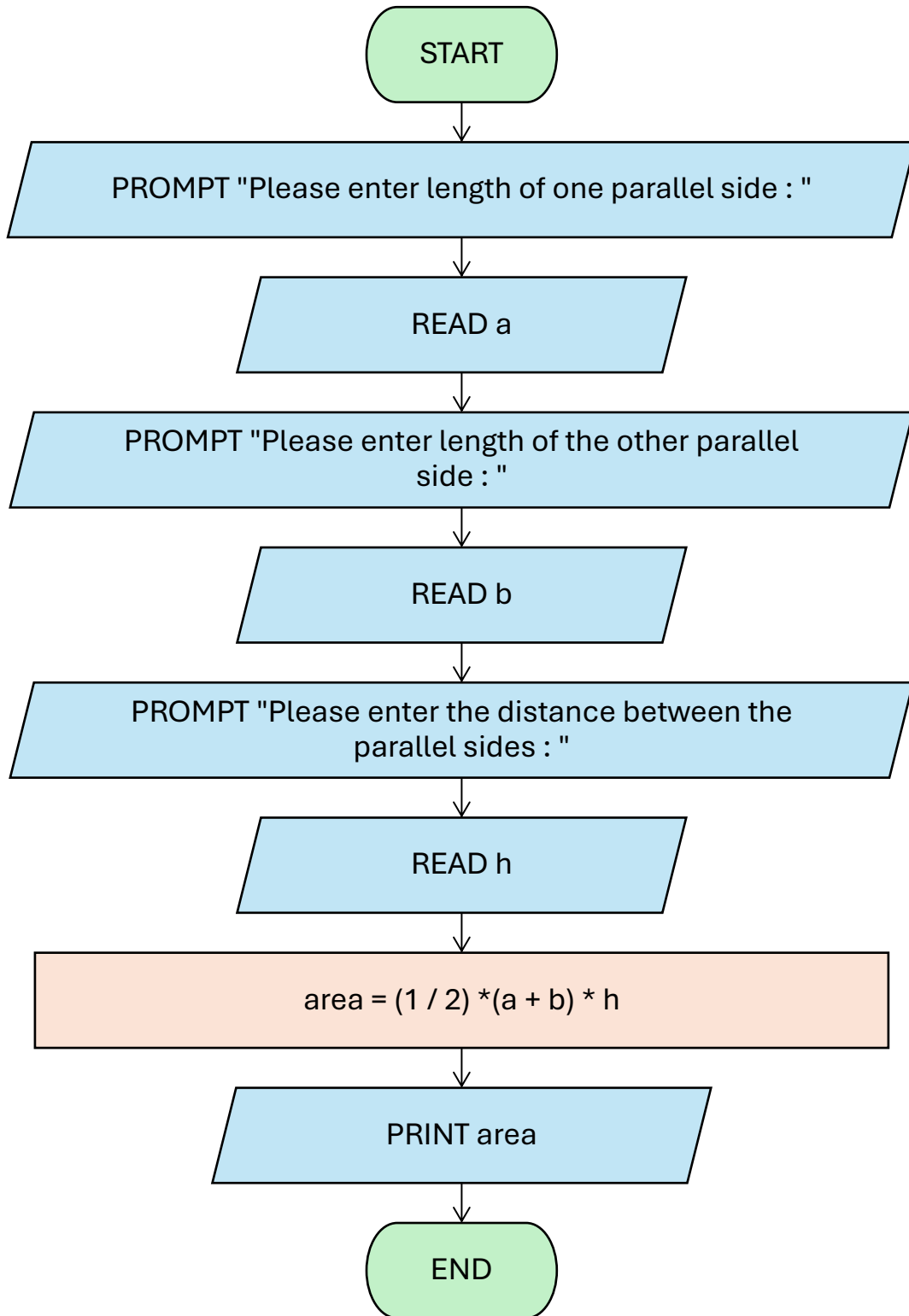
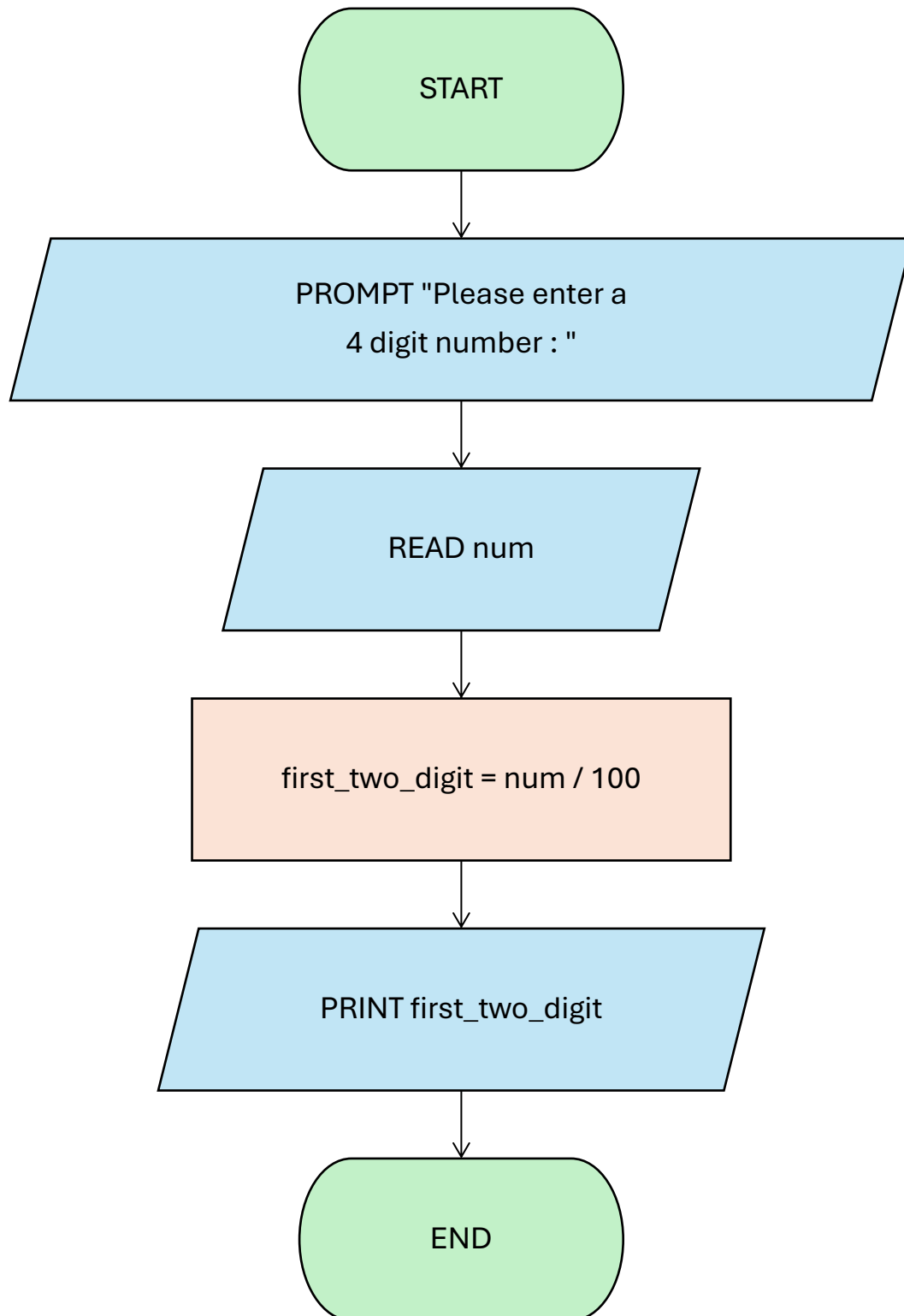❖ 4. Create a flowchart to find the average of three numbers. The flowchart should take three inputs from the user and display their average

START

PROMPT "Please enter first number : "

READ num1

PROMPT "Please enter second number : "

READ num2

PROMPT "Please enter third number : "

READ num3

avg = (num1 * num2 * num3) / 3

PRINT avg

END

❖ 5. Design a flowchart to take an integer consisting of 4 digits as input and print the last 2 digits of that number.

```
START

PROMPT "Please enter a
4 digit number : "

READ num

last_two_digit = num % 100

PRINT last_two_digit

END
```
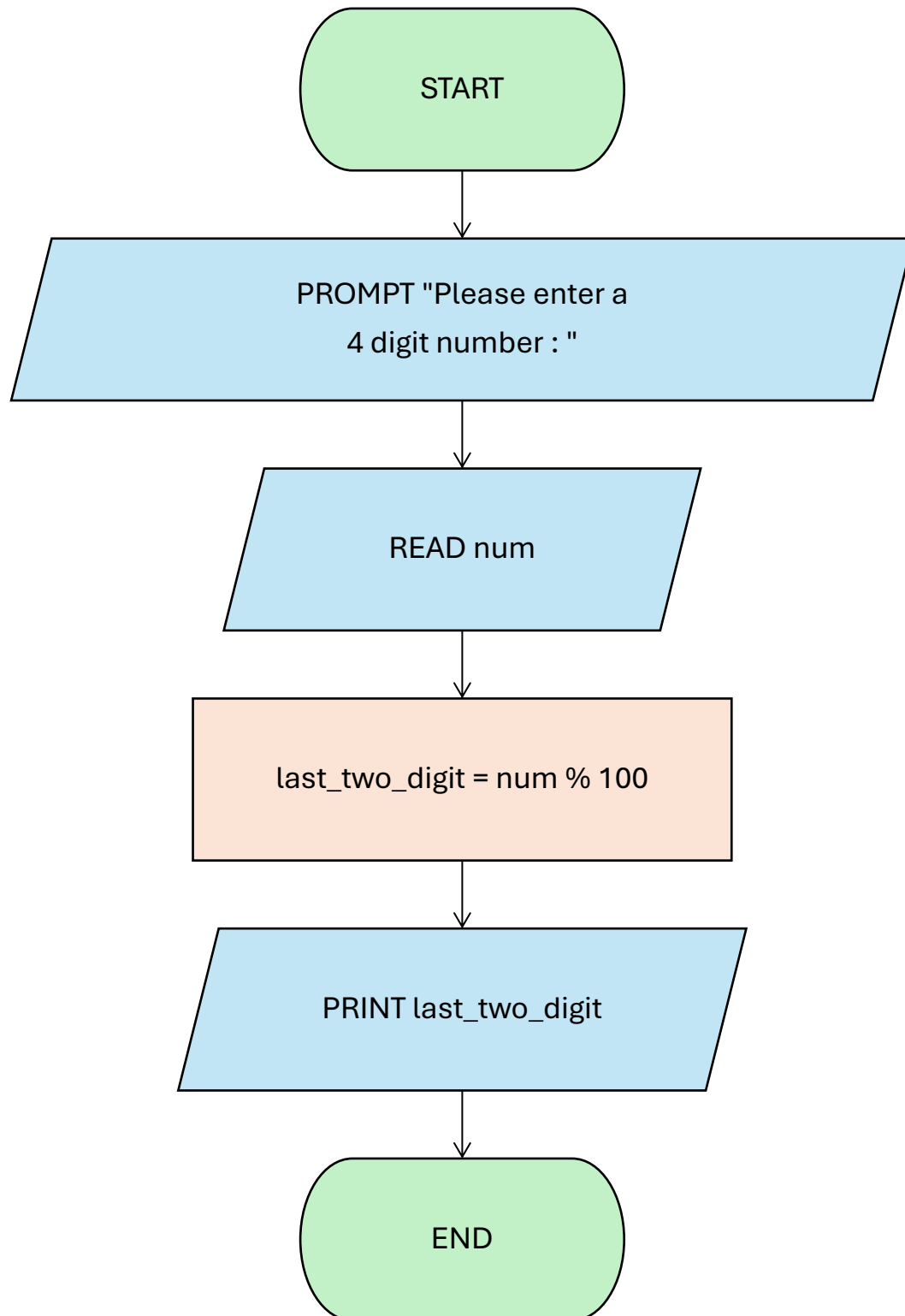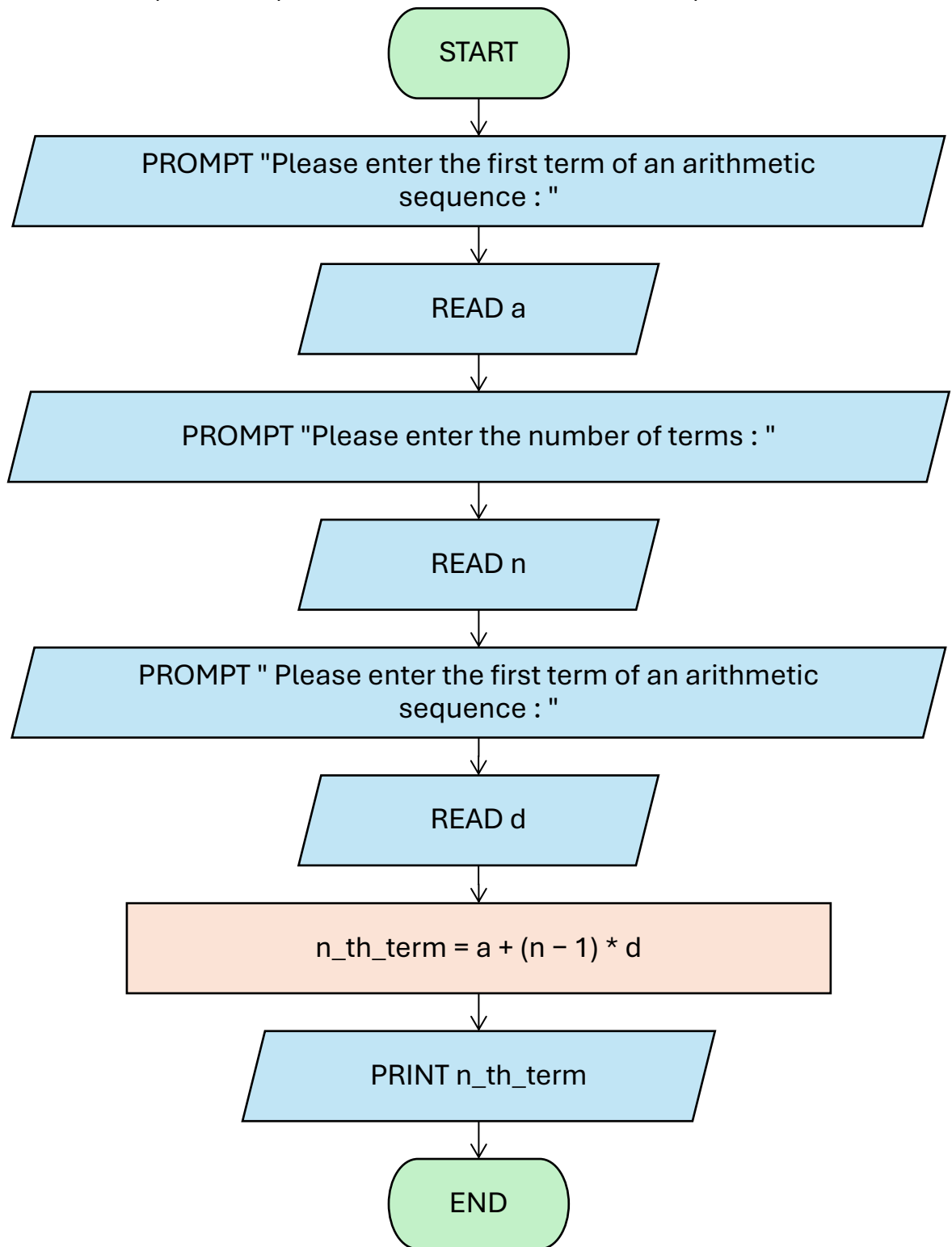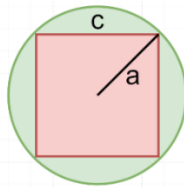
❖ 6. Design a flowchart to take an integer consisting of 4 digits as input and print the first 2 digits of that number.

```
        START

PROMPT "Please enter a
    4 digit number : "

        READ num

first_two_digit = num / 100

   PRINT first_two_digit

        END
```
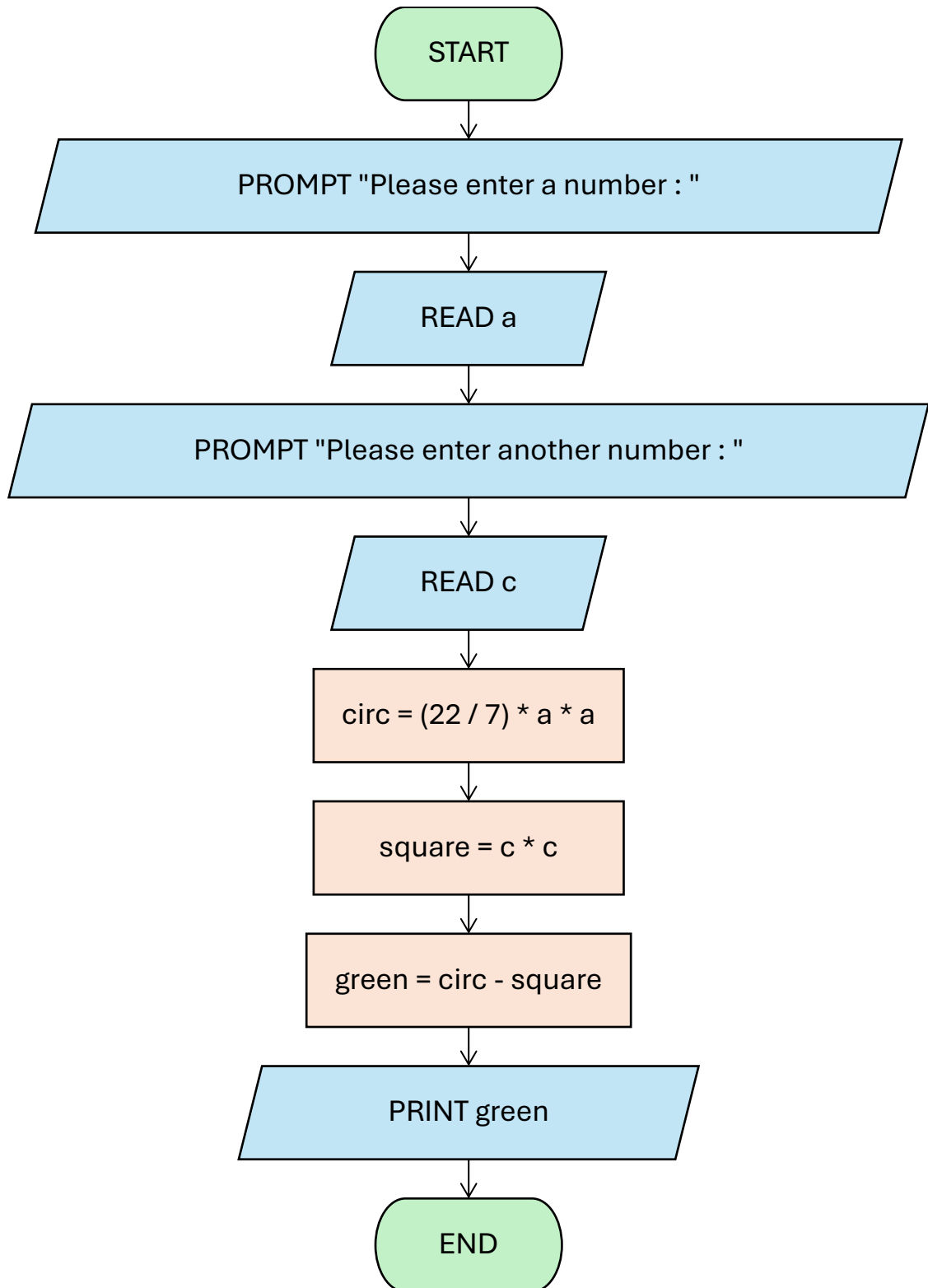
❖ 7. Design a flowchart to take three integers a, n, d as input where a is the first term of an arithmetic sequence, n is the number of terms and d is the common difference between the terms in the sequence and print the n-th term of the arithmetic sequence.

START

PROMPT "Please enter the first term of an arithmetic sequence : "

READ a

PROMPT "Please enter the number of terms : "

READ n

PROMPT " Please enter the first term of an arithmetic sequence : "

READ d

n_th_term = a + (n − 1) * d

PRINT n_th_term

END

❖ 8. Design a flowchart to take two numbers a and c as input (look at the image below) and print the area of the portion colored in green. In the following image, a is the radius of the circle, and c is the length of the sides of the square.

```
        START
          │
          ▼
PROMPT "Please enter a number : "
          │
          ▼
        READ a
          │
          ▼
PROMPT "Please enter another number : "
          │
          ▼
        READ c
          │
          ▼
   circ = (22 / 7) * a * a
          │
          ▼
     square = c * c
          │
          ▼
   green = circ - square
          │
          ▼
      PRINT green
          │
          ▼
        END
```
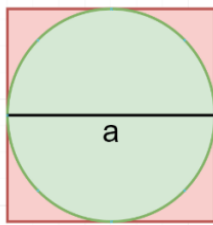
❖ 9. Design a flowchart to take a number as input (look at the image below), and print the area of the portion colored in red. In the following image, a is the diameter of the circle.

```
        START

PROMPT "Please enter a number : "

        READ a

  circ = (22 / 7) * (a / 2) * (a / 2)

      square = a * a

     red = square - circ

        PRINT red

         END
```