

# Introduction to Algorithms

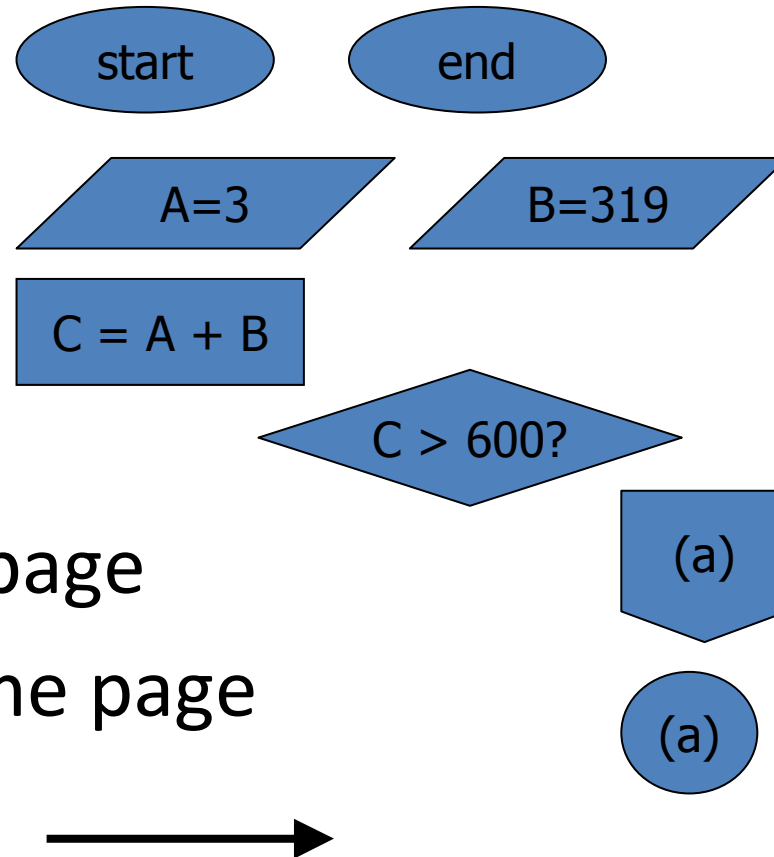
Solving problems

# How to solve programming problems?

- Use algorithms
- 2 types of algorithms:
  - Flowchart
    - A diagram which shows the flow of operations
    - Must use specific symbols
  - Pseudocode
    - List of instructions in correct sequence
    - Must use simple language

# Flowchart: Symbols

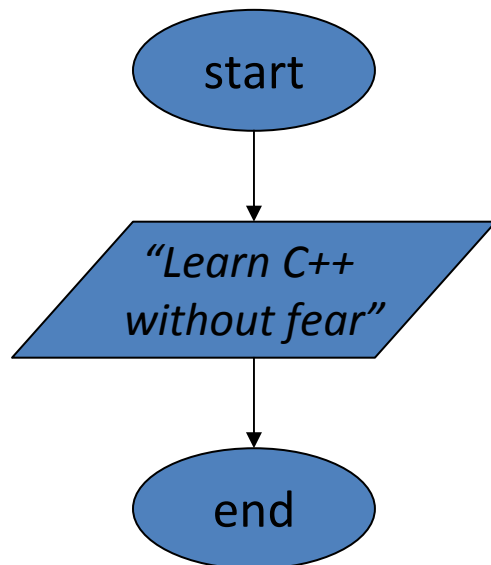
- Start/end
- Input/Output
- Process
- Condition: *if, while*
- Continue on a new page
- Continue on the same page
- Control flow



# Example 1

- Write a program which prints the sentence  
*Learn C++ without fear*

## Flowchart

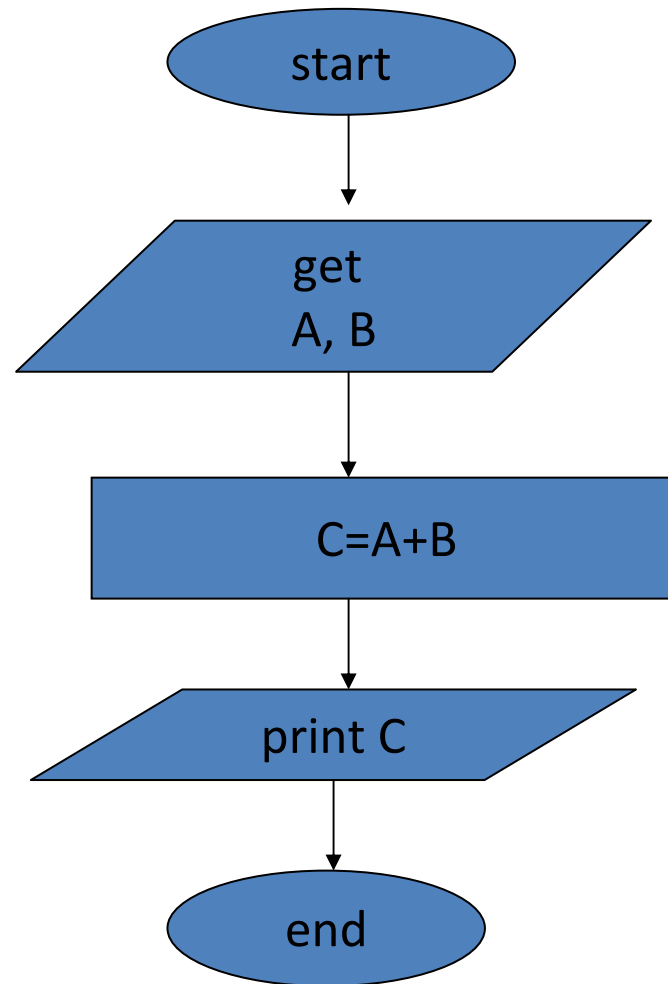


## Pseudocode

1. *Start*
2. *Print "Learn C++ without fear"*
3. *end*

# Example 2

- Draw a flowchart and write a pseudocode for a program which computes the addition of two integer values, A and B and displays the result.



# Example 2: Pseudocode

Write a pseudocode to compute the addition of two integer values.

**Start**

**Get value of first integer, A**

**Get value of second integer, B**

**Compute total of A and B,  $C=A+B$**

**Display output, C**

**End**

# Quiz 1

Prepare a flowchart for a C++ program which calculates the total resistance for a circuit with 3 resistors in series.

# Answer to Quiz 1

