OOP with C++

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Prerequisite

Install Visual Studio 2022 Community

Visual Studio Community | Download Latest Free Version

Register GitHub account and send me username of your account

All the learning materials and code will be pushed to

https://github.com/epiyushpant/MRC2025OOP.git

You need to create your own branch like **MRC2025Piyush** and push your code to your branch .

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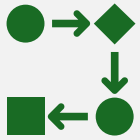
Building Logic Before Coding

Programming is not just writing code.



It starts with understanding the problem and planning how to solve it.

This is done using Algorithm, Flowchart, and Pseudocode.

Logic building means

Thinking clearly

Solving problems step-by-step

Planning before writing code

Helps avoid errors and makes programs work properly

Why Build Logic Before Coding?

To understand the problem

To plan the solution clearly

To make fewer mistakes

To write clean and correct code

Algorithm

- An algorithm is a set of steps to solve a problem
- Written in simple language

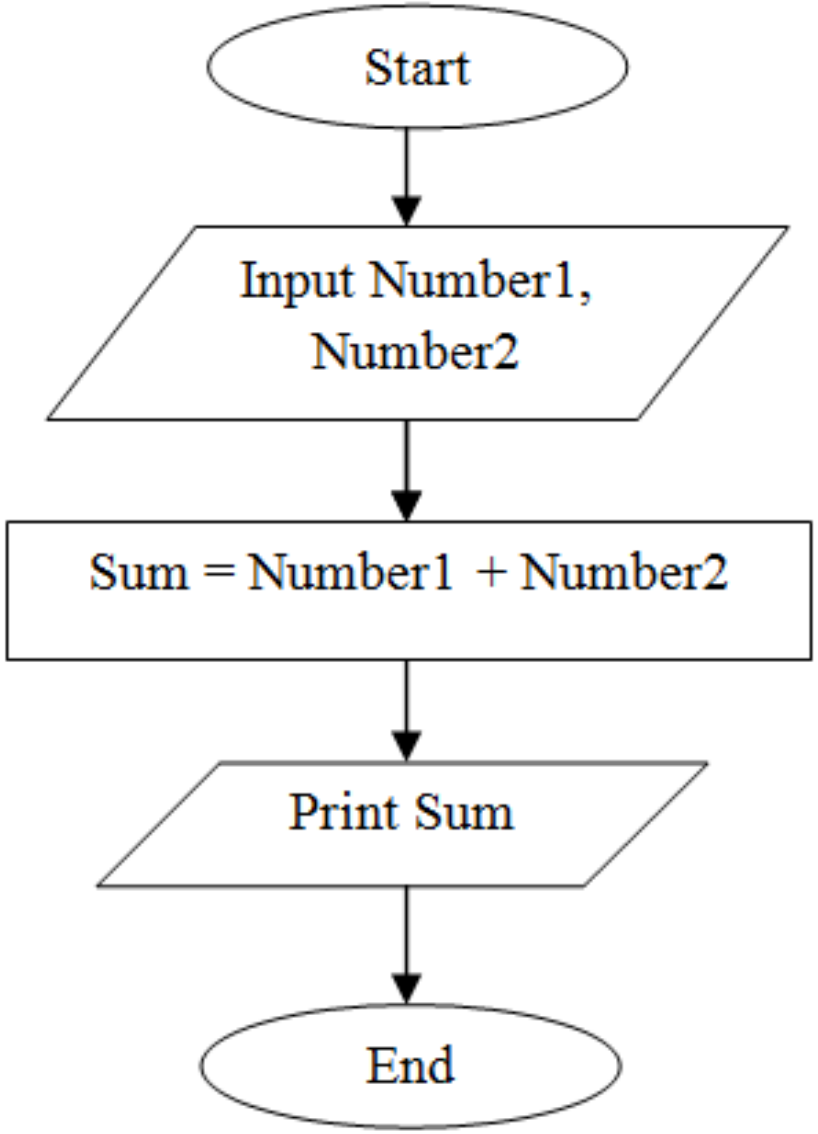
Problem: Add two numbers

Steps

- Start
- Take two numbers A and B
- Add A and B
- Show the result
- Stop

Flowchart

- A flowchart is a diagram that shows steps of a program
- Uses symbols and arrows
- Helps visualize how a program will run



Flow chart Basic Symbols

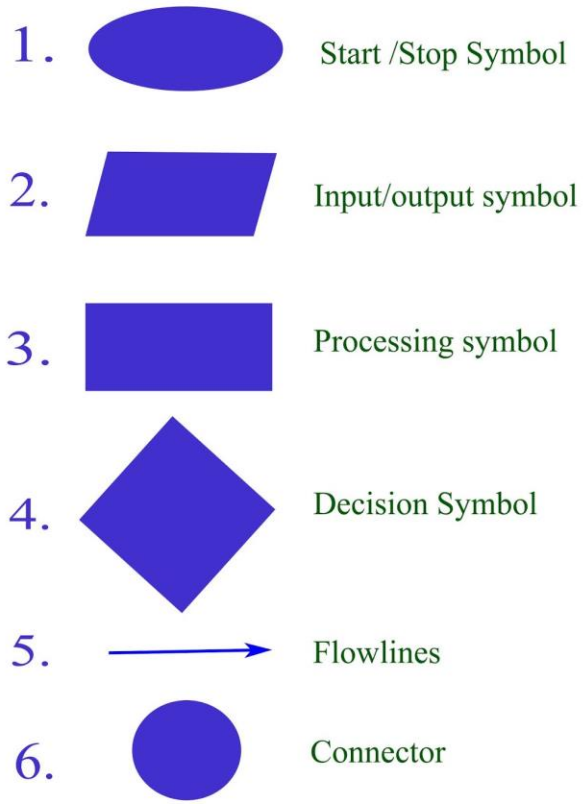


Fig. Flow Chart Basic Symbols

Pseudocode

- Pseudocode means writing steps in plain English
- Not real code, but close to it
- Helps plan what the code will do

```
Start

Input A, B

If A > B then
  Print "A is bigger"
Else
  Print "B is bigger"
End If

Stop
```

Summary

- Algorithm = Step-by-step instructions
- Flowchart = Picture of the steps
- Pseudocode = Simple English version of logic
- Use these before writing code!

- Plan your logic first.
- Code will be easier and better!

Questions

Write algorithm , flowchart and pseudocode for following questions :

Input required value form user and calculate

1. Maximum of two input numbers .
2. Calculate area of rectangle.
3. Calculate Simple Interest.
4. Is Number Prime or Not.
5. Sum of Numbers 1 to N .
6. Factorial of N .