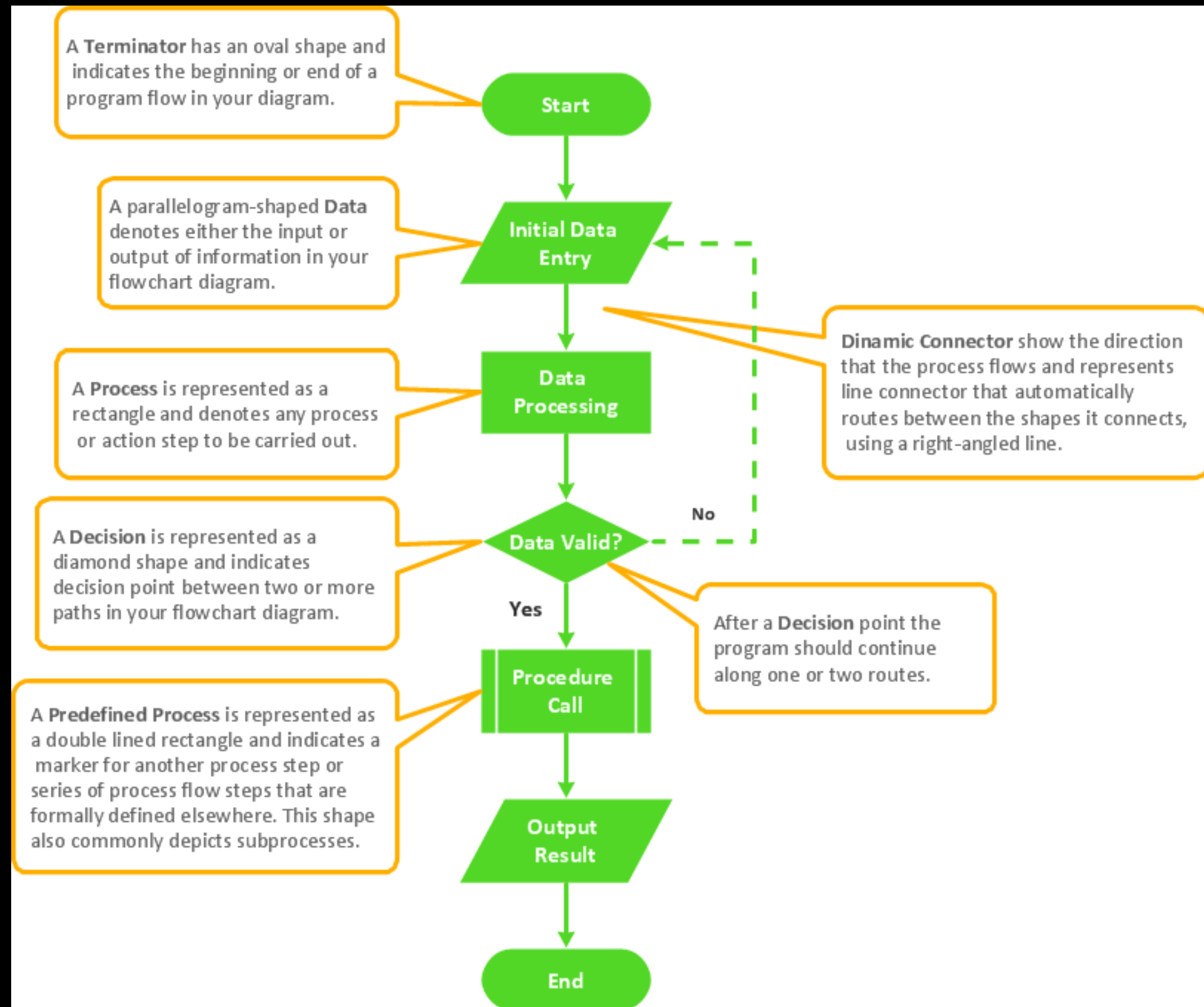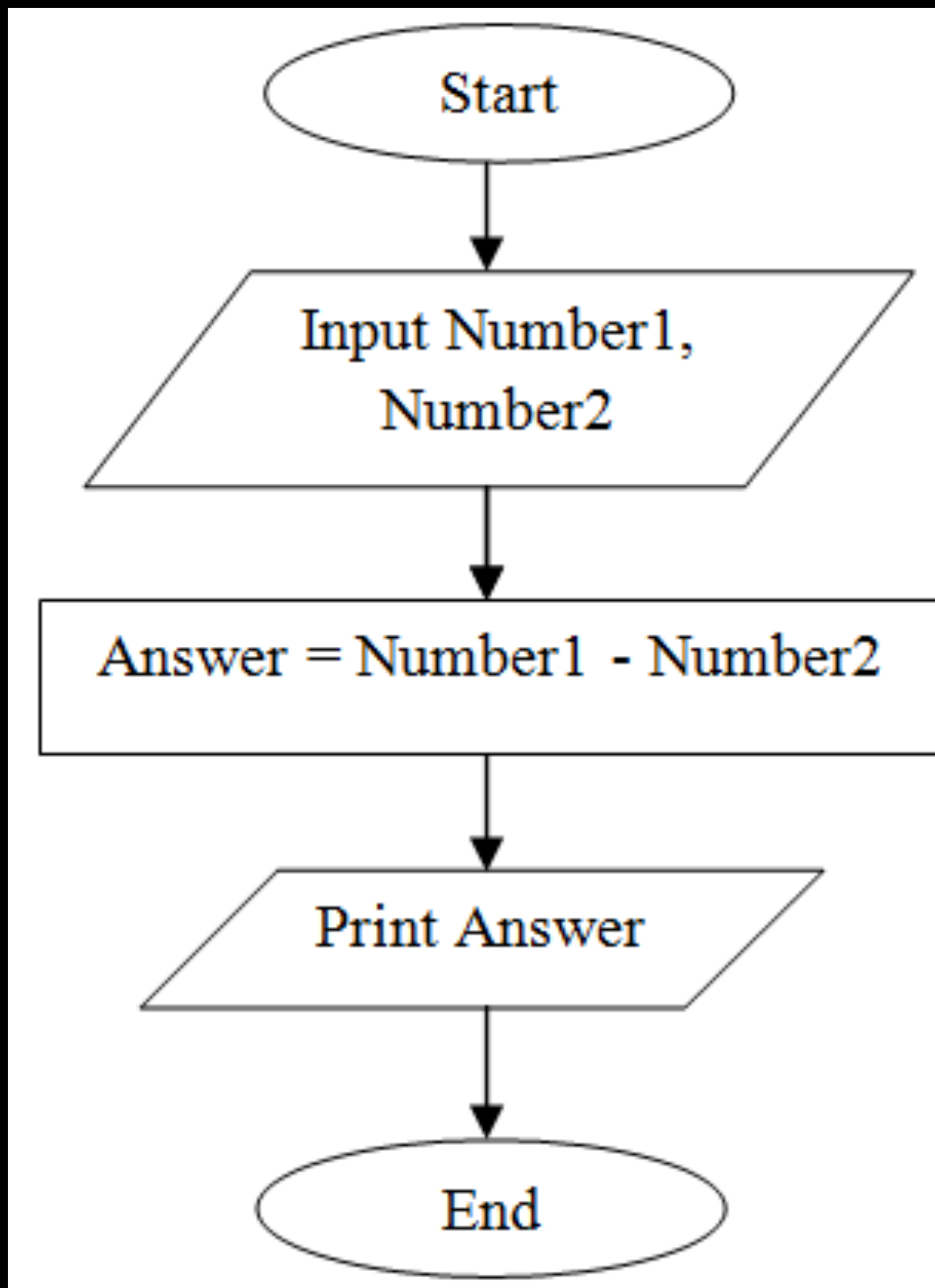# Programming Fundamentals

Instructor: Love Babbar

Thought Process to solve a Problem
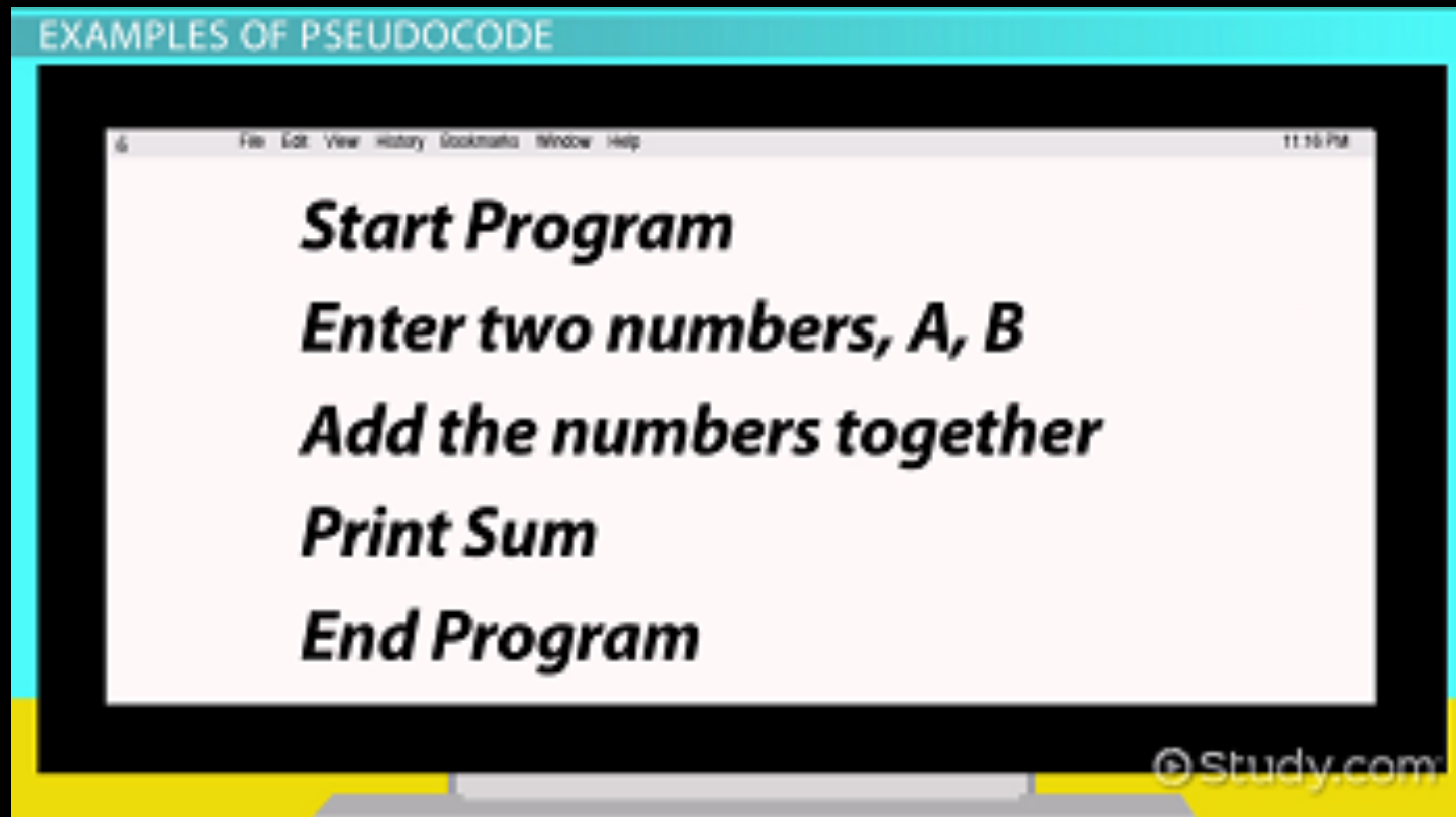
Using Computer to solve a Problem:

FlowCharts:

Flowchart is a graphical representation of an algorithm. Programmers often use it as a program-planning tool to solve a problem. It makes use of symbols which are connected among them to indicate the flow of information and processing. The process of drawing a flowchart for an algorithm is known as "flowcharting".

FlowChart Components:

PseudoCode:

Pseudocode is a detailed yet readable description of what a computer program or algorithm must do, expressed in a formally-styled natural language rather than in a programming language. Pseudocode is sometimes used as a detailed step in the process of developing a program.

Time to Practice starts :-)

Add 2 numbers by taking Input

Find Circumference of a Circle

Average of 3 numbers

Check number is ODD or EVEN

Students & Grade Flowchart

Check number is +ve, -ve or 0.

Print Counting from 1 to N

Add N numbers from user

Printing 1 to N but only odd numbers

HomeWork:

- Multiply 2 no. by taking input

- Find perimeter of a Triangle

- Find Simple Interest

- Print counting from N to 1

- Find Factorial of a number

- Check Prime or not

HomeWork:

- Valid Triangle or Not

- Printing 1 to N but only even numbers.

- Print max of three numbers

What is a Programming Language ?
Why we need it ?

- A Language using which, we can instruct the computer to carry out real life tasks and computations is called a programming language. It acts as a language in which we could easily express our thoughts to the machine.

- Like natural languages, programming language has a fixed set of rules according to which programs could be written in it. These programs are then converted into a language which machines can understand. This task is carried out by a special software called compiler.

- Every language has its own compiler/Interpreter.

- Once a program is compiled and linked, its executable is created and the computer can run our program now.