Flowchart In Programming[i]

A flowchart is a diagrammatic representation of an algorithm. A flowchart can be helpful for both writing programs and explaining the program to others.

Symbols Used In Flowchart

Symbol	Purpose	Description
	Flow line	Indicates the flow of logic by connecting symbols.
	Terminal (Stop/Start)	Represents the start and the end of a flowchart.
	Input / Output	Used for input and output operation.
	Processing	Used for arithmetic operations and data-manipulations.

	Decision	Used for decision making between two or more alternatives.
	On-page Connector	Used to join different flowline
	Off-page Connector	Used to connect the flowchart portion on a different page.
	Predefined Process/ Function	Represents a group of statements performing one processing task.

Examples of flowcharts in programming

1. Add two numbers entered by the user.
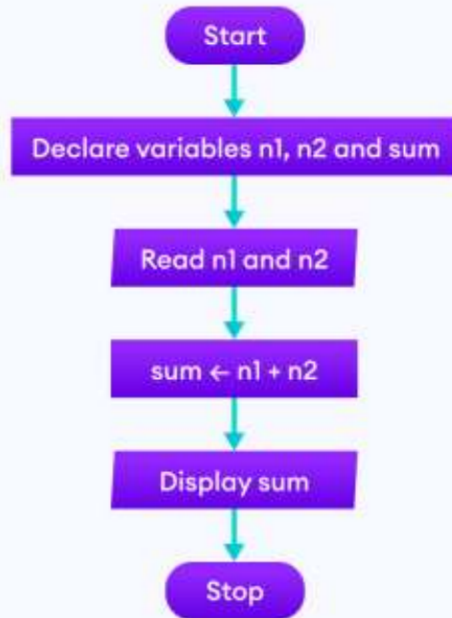
Flowchart to add two numbers

2. Find the largest among three different numbers entered by the user.

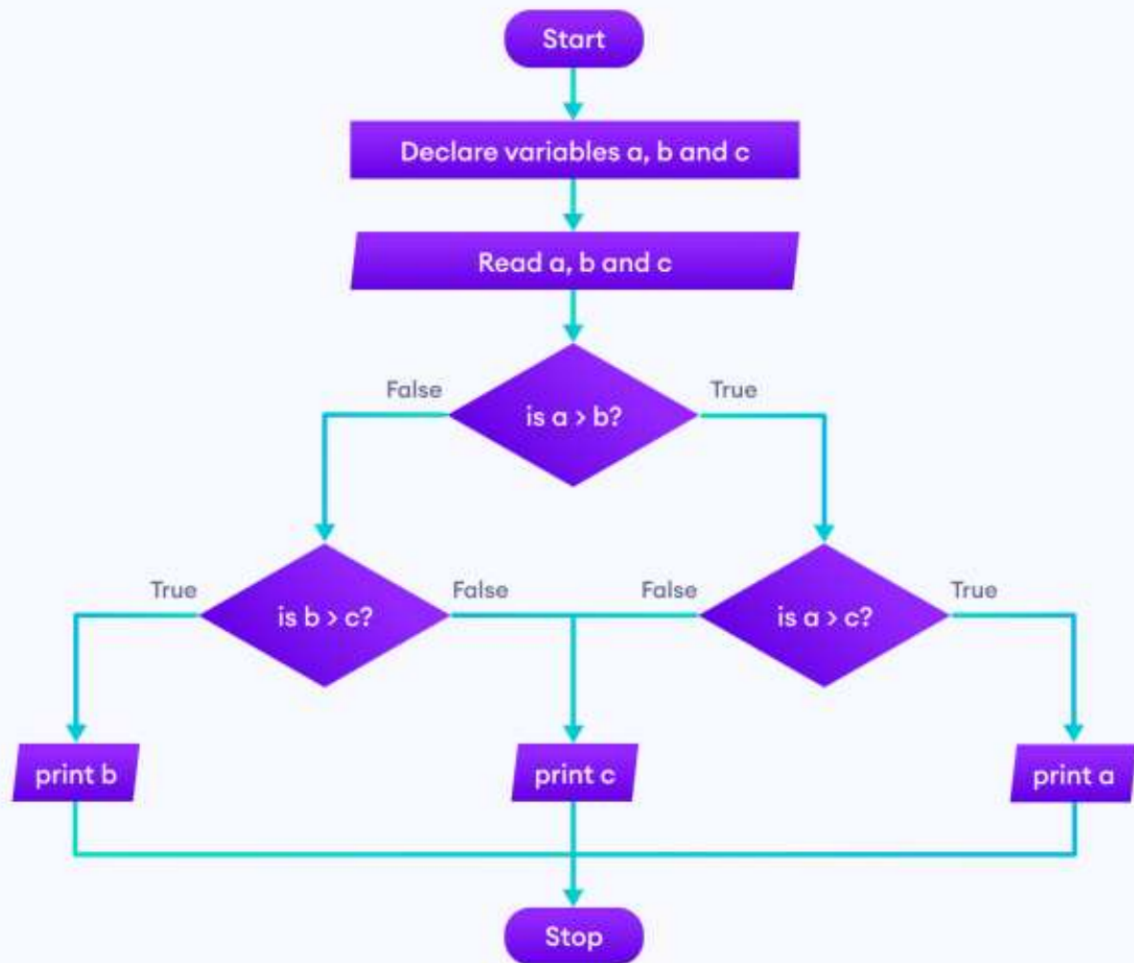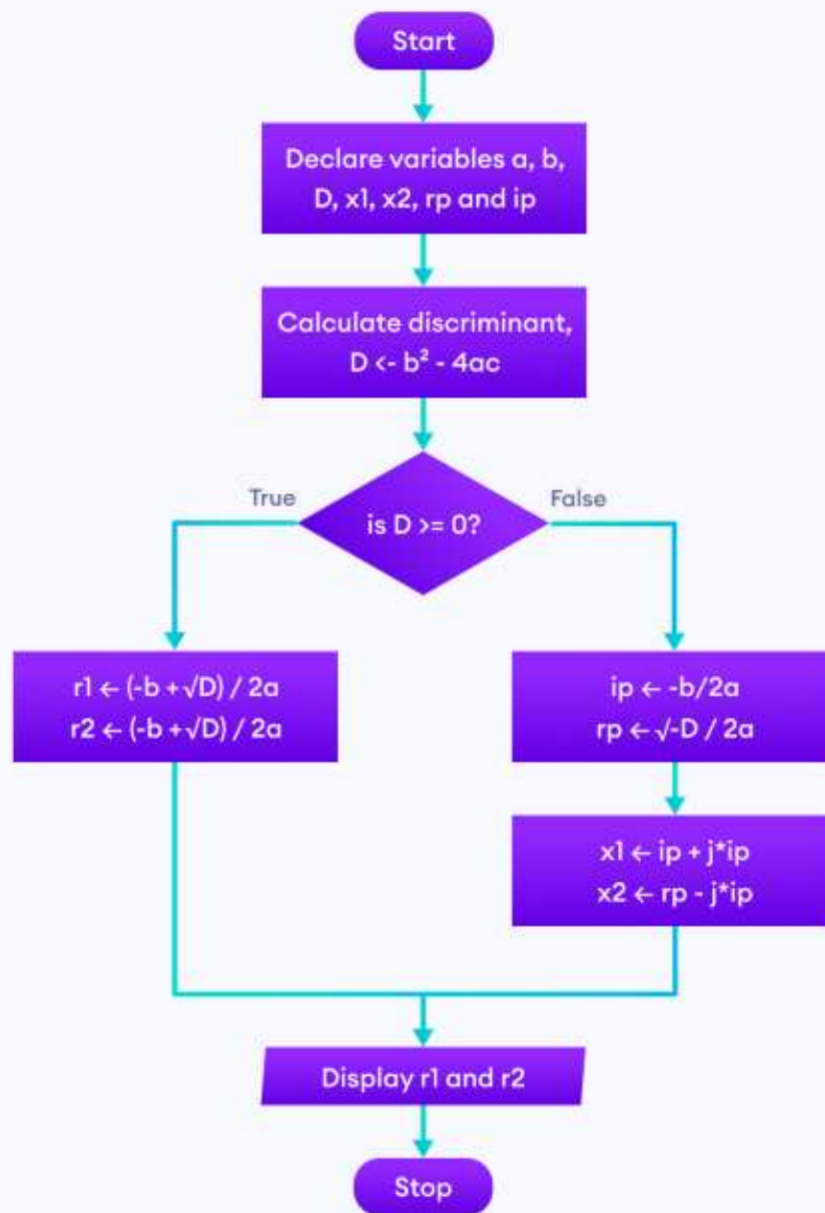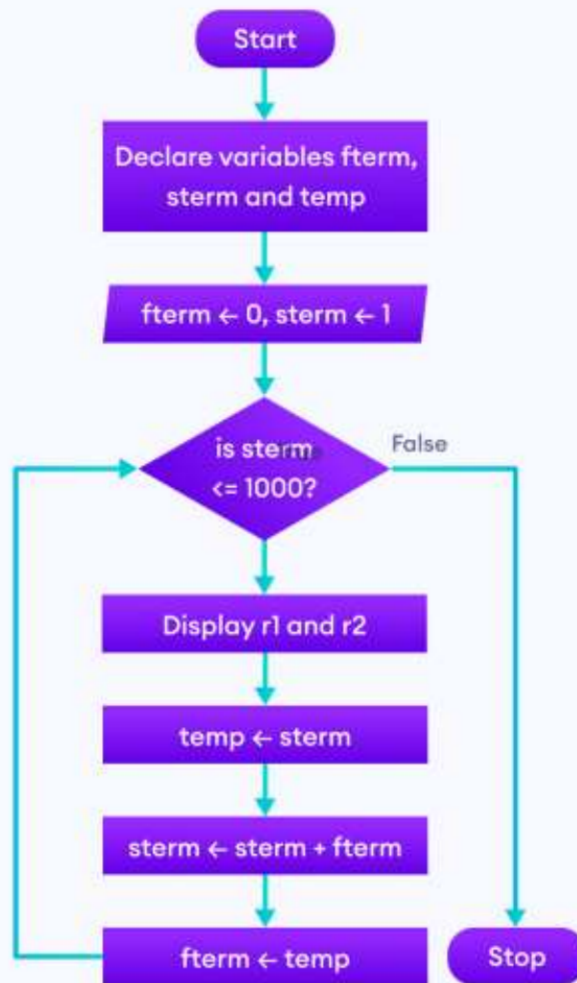Flowchart to find the largest among three numbers.

3. Find all the roots of a quadratic equation $ax^2+bx+c=0$

```
                          ┌───────────┐
                          │   Start   │
                          └───────────┘
                                │
                    ┌───────────────────────┐
                    │ Declare variables a, b, │
                    │   D, x1, x2, rp and ip  │
                    └───────────────────────┘
                                │
                    ┌───────────────────────┐
                    │ Calculate discriminant, │
                    │     D <- b² - 4ac       │
                    └───────────────────────┘
                                │
              True                          False
                    ◇ is D >= 0? ◇
```

$$r1 \leftarrow (-b + \sqrt{D}) / 2a$$
$$r2 \leftarrow (-b + \sqrt{D}) / 2a$$

$$ip \leftarrow -b/2a$$
$$rp \leftarrow \sqrt{-D} / 2a$$

$$x1 \leftarrow ip + j*ip$$
$$x2 \leftarrow rp - j*ip$$

Display r1 and r2

Stop

Flowchart to find roots of a quadratic equation

4. Find the Fibonacci series till term≤1000.

Flowchart fo display the Fibonacci Series

Note: Though flowcharts can be useful for writing and analyzing a program, drawing a flowchart for complex programs can be more complicated than writing the program itself. Hence, creating flowcharts for complex programs is often ignored.

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[i] Flowchart In Programming. https://www.programiz.com/article/flowchart-programming