

## **Java - Introduction to Programming**

- 1. What is code?**
- 2. Input- Output, Variables & Data Types**
- 3. Conditional Statements**
- 4. Loops**
- 5. All about Patterns**
- 6. Methods/Functions**
- 7. Space & Time Complexity**
- 8. Arrays**
- 9. 2D Arrays**
- 10. String**
- 11. String builder**
- 12. OOPS Concept**
- 13. Collection Framework**
- 14. Sorting & Recursion**
- 15. Multithreading Concept**

# Java - Introduction to Programming

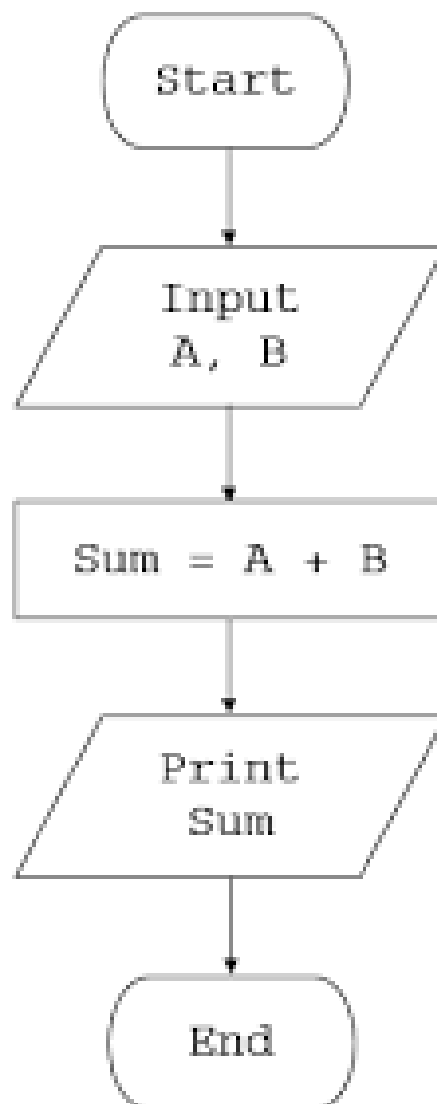
## 1. What is code?

In programming, code is a set of instructions written in a programming language that tells a computer how to perform tasks. Code is also known as source code.

A flowchart to cook Maggi noodles can be made as follows:

- Start
- Fill a pan with water
- Place the pan on the burner
- Turn on the gas
- Add Maggi and masala
- Boil for two minutes
- Remove the pan from heat
- Use a fork or spoon to take out the Maggi
- Put the Maggi on a plate and serve

## PRINT SUM OF 2 NUMBERS



### Installation:

1. JDK – Java Development kit (it contains all the things to write java code)
2. IDE /Code Editor– Software to write java code
  1. Eclipse - <https://www.eclipse.org/downloads/packages/release/2021-03/r/eclipse-ide-java-developers>
  2. IntelliJ -
  3. VS code -- <https://code.visualstudio.com/docs/languages/java>

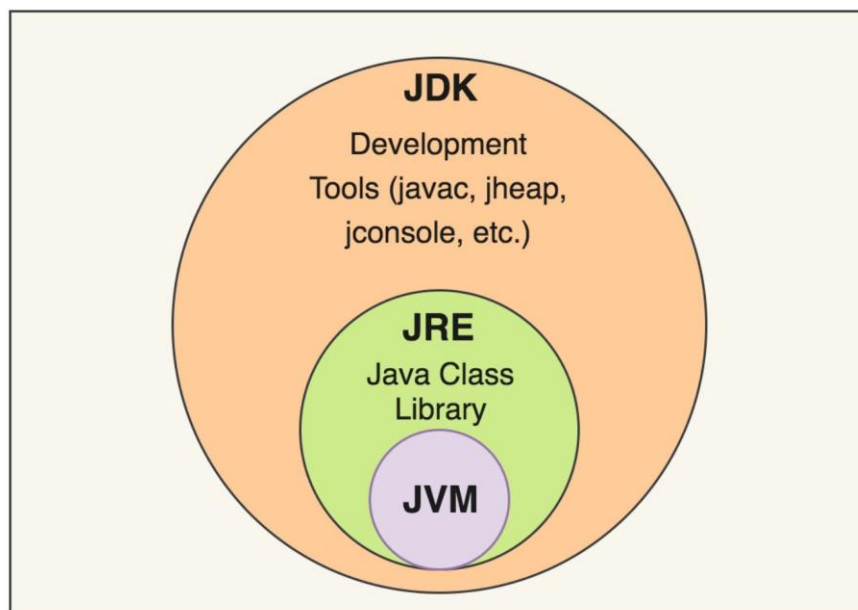
### Write a code:

```
class firstClass{  
  
    public static void main(String args[]){  
        System.out.println("Hello World");  
    }  
  
}
```

Output: Hello World

### How is My Code running?

1. Compilation
2. Execution



### Compilation:

Source Code → Compiler(JDK) → Byte Code

firstClass.java

firstClass.class

### Execution:

Byte Code → JVM → Native Code

firstClass.class (0/1)

## Component of Code:

### 1. Function

A function is a block of code, which takes some input, performs some operations and returns some output. The functions stored inside classes are called methods. *The function we have used is called main.*

```
Void main (){  
}
```

### 2. Class

A class is a group of objects, which have common properties. A class can have some properties and functions (called methods). *The class we have used is Main.*

```
class firstClass{  
  
}
```

In Java, a class is a blueprint for creating objects. It defines the data structure and methods for the objects that are created from it. Classes are fundamental building blocks of object-oriented programming.

## Home Assignment

Install Any IDE(Eclipse/IntelliJ/VS Code) and JDK in your computer before joining tomorrow's class.