

# Chapter 1 :-

- [1] Machine Language :- Is A Native Computer's Language       $1100101$
- [2] Assembly Language :- Is A Programming Language which we understand. Java, C++, Python, etc.
- [3] Assembler :- is used to translate assembly language into machine Code      add 2,3, result  $\rightarrow 1100101001$
- [4] High Level Language :- is a language is difficult for Computer to understand it and humans can understand it easily      area =  $5 * 5 * 3.14159$ ;
- [5] Source Code :- is a program written in a high level language      Test.java , file.html
- [6] Compiler :- is used to translate the High level language into machine code      int x = 5;  $\rightarrow 10010110$
- [7] Interpreter :- Like the compiler but addition to it Collection of execution and Translation for Source Code
- [8] Oracle :- The Company which own Java now
- [9] API :- a Library Contains Predefined Classes and interfaces for Developing Java Programs Application Program Interface
- [10] JDK :- The Tool which Consists of a set of separate Programs Java Development Kit
- [11] IDE :- Integrated Development Environment which we use it

## Simple Program: Welcome.java

```
access modifier Classname Class block
public class Welcome {
    public static void main(String[] args) {
        System.out.println("Welcome to Java!");
    }
} // Comment writing here
```

### output

Welcom to Java!

### note

Java Source Programs are Case Sensitive `main` vs `Main`

## Mathematical Program: ComputeExpression.java

```
public class ComputeExpression {
    public static void main(String[] args) {
        System.out.println((10.5 + 2 * 3) / (45 - 3.5));
    }
}
```

### output

0.39759036144578314

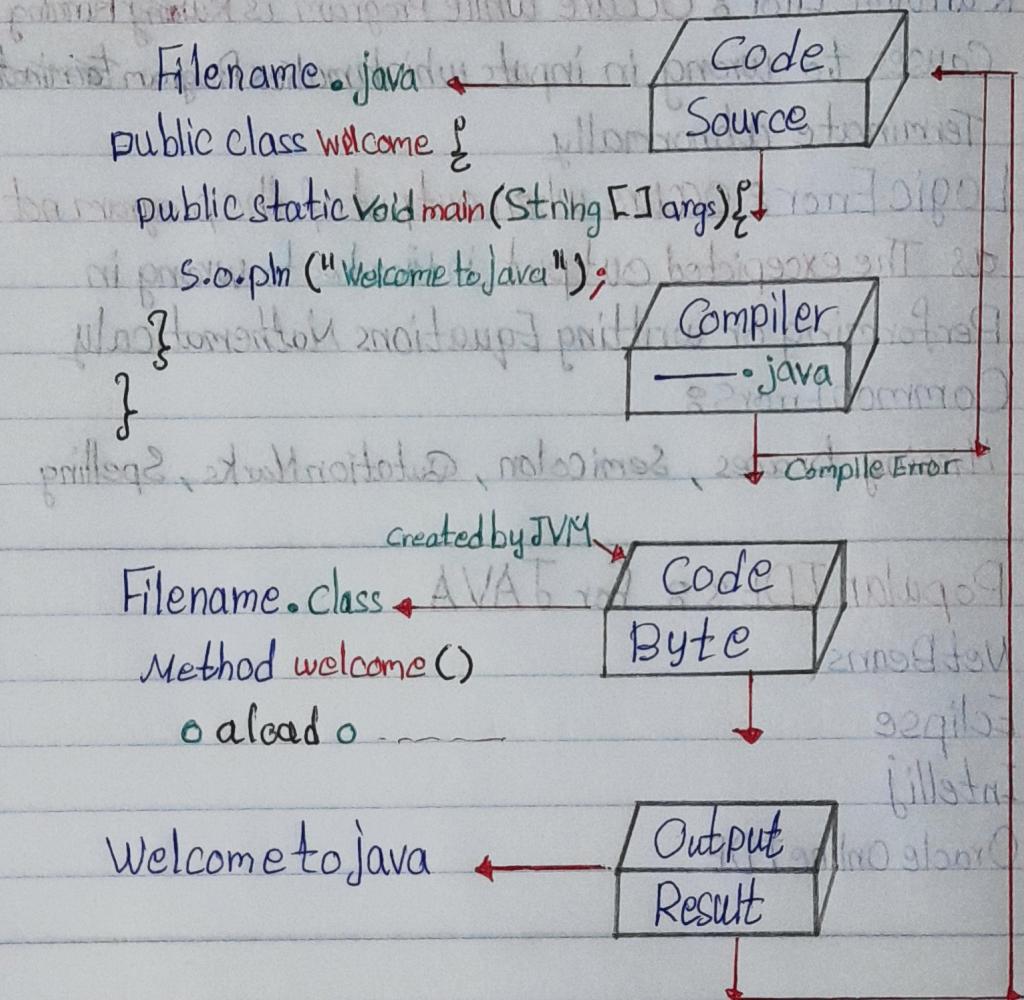
### note

The Source Code before Compiling `filename.java` and After Compiling `filename.class` as a byte code file

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JVM 8 is a tool which interpret the byte code and display the output on the console Java Virtual Machine

Developing Cycle



note

on cmd screen you ~~should~~ Should Compiling first by  
javac Welcome.java Then you can run it by  
java welcome

/\*\*-\*\*/ used for exerted any text to Html file

## Programming Errors

- [1] Syntax Errors occur through Compiling Operation indicates to wrong in writing keywords of Java
- [2] Runtime Errors occur while Program is Running Causes to wrong in inputs which makes Program terminate abnormally
- [3] Logic Errors occur when output of the program not as The expected output indicates to wrong in Performing or writing Equations Mathematically
- [4] Common Errors:
  - Missing braces, Semicolon, Quotation Marks, Spelling

## Popular IDE's for JAVA

- [1] NetBeans
- [2] Eclipse
- [3] IntelliJ
- [4] Oracle Online IDE