
Core Java Tutorial: Java Program Introduction



Dr. Soumadip Ghosh

Associate Professor, Academy of Technology

Getting Started with Java

Below is a sample Java code for the traditional Hello World program. Basically, the idea behind this Hello World program is to learn how to create a program, compile and run it.

```
//Test.java

public class Test {

    public static void main(String[] args) {

        System.out.println("Hello World");

    } //end of main()

} //end of class Test
```

Steps to follow

Step 1: Save the program with `.java` Extension.

Step 2: Compile the file from command prompt by typing: `javac <filename>`

Step 3: Successful compilation, results in creation of `.class` containing byte code

Step 4: Execute the file by typing: `java <class name to which main() belongs>`

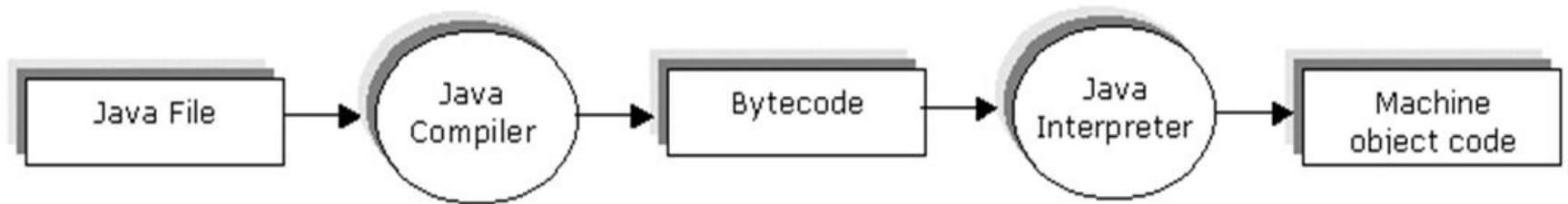


Figure 1: Steps to run a Java Program

Classes and Objects

- A **class** is a template for creating different **objects** which defines its properties and behaviors.
- An **object** is an instance of a class created using a **new** operator.

A class has the following general syntax:

```
<class modifiers> class <class name> <extends clause> <implements clause>  
//extends or implements clause is optional  
{  
    // Dealing with Classes (Class body)  
    <field declarations (Static and Non-Static)>  
    <method declarations (Static and Non-Static)>  
    <Inner class declarations>  
    <nested interface declarations>  
    <constructor declarations>  
    <Static initializer blocks>  
}
```

Class & Object Example

```
class Rectangle { //CamelCase
    private int length, breadth; //instance fields

    //instance methods
    public void inputData(int l, int b){ //camelCase()
        length = l;
        breadth = b;
    }
    int computeArea() { //camelCase()
        return length * breadth;
    }
}
```

```
Rectangle rect; //object reference
```

```
rect = new Rectangle(); //creating object
```

Refer to an instance field / method: `objectReference.member`

References

■ Book Resources:

- Herbert Schildt. *Java: The complete Reference*. Tata McGraw Hill (TMH), 9th Edition.
- Cay S. Horstmann, Gary Cornell. *Core Java Volume-I and Volume-II*. Pearson Education, 8th Edition.
- Kathy Sierra, Bert Bates. *Head First Java*. O'Reilly Media, 2nd Edition.
- E. Balagurusamy, *Programming with Java A Primer*. TMH, 3rd Edition.

■ URL Resources:

- <https://docs.oracle.com/javase/tutorial/java/package/index.html>
- <https://www.w3schools.com/java/default.asp>