4. First Java Program / Hello world Example

In this section, we will learn how to write the simple program of Java. We can write a simple hello Java program easily after installing the JDK.

To create a simple Java program, you need to create a class that contains the main method. Let's understand the requirement first.

The requirement for Java Hello World Example

For executing any Java program, the following software or application must be properly installed.

1. Install the JDK if you don't have installed it, download the JDK and install it.
   Set path of the jdk/bin directory. http://www.javatpoint.com/how-to-set-path-in-java
2. Create the Java program
3. Compile and run the Java program

Creating Hello World Example

Let's create the hello java program:

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

Save the above file as Simple.java.

To compile:

javac Simple.java

To execute:

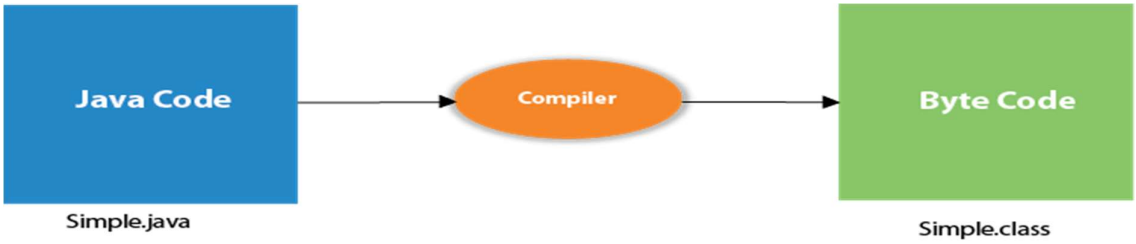
java Simple

Output:

```
Hello Java
```

Compilation Flow:

When we compile Java program using javac tool, the Java compiler converts the source code into byte code.



Parameters used in First Java Program

Let's see what is the meaning of class, public, static, void, main, String[], System.out.println().

- **class** keyword is used to declare a class in Java.
- **public** keyword is an access modifier that represents visibility. It means it is visible to all.
- **static** is a keyword. If we declare any method as static, it is known as the static method. The core advantage of the static method is that there is no need to create an object to invoke the static method. The main() method is executed by the JVM, so it doesn't require creating an object to invoke the main() method. So, it saves memory.
- **void** is the return type of the method. It means it doesn't return any value.
- **main** represents the starting point of the program.
- **String[] args** or **String args[]** is used for command line argument
  We will discuss it in coming section.
- **System.out.println()** is used to print statement. Here, System is a class, out is an object of the PrintStream class, println() is a method of the PrintStream class. We will discuss the internal working of System.out.println() statement in the coming section.

In how many ways we can write a Java program?

There are many ways to write a Java program. The modifications that can be done in a Java program are given below:

1) By changing the sequence of the modifiers, method prototype is not changed in Java.

Let's see the simple code of the main method.

```
static public void main(String args[])
```

2) The subscript notation in the Java array can be used after type, before the variable or after the variable.

Let's see the different codes to write the main method.

```
public static void main(String[] args)
public static void main(String []args)
public static void main(String args[])
```

3) You can provide var-args support to the main() method by passing 3 ellipses (dots)

Let's see the simple code of using var-args in the main() method. We will learn about var-args later in the Java New Features chapter.

```
public static void main(String... args)
```

4) Having a semicolon at the end of class is optional in Java.

Let's see the simple code.

```
class A
{
      static public void main(String... args)
      {
            System.out.println("hello java4");
      }
};
```

Valid Java main() method signature

```
public static void main(String[] args)
public static void main(String []args)
public static void main(String args[])
public static void main(String... args)
static public void main(String[] args)
public static final void main(String[] args)
final public static void main(String[] args)
final strictfp public static void main(String[] args)
```