

# Hello World

## Print Line

`System.out.println()` can print to the console:

- `System` is a class from the core library provided by Java
- `out` is an object that controls the output
- `println()` is a method associated with that object that receives a single argument

```
System.out.println("Hello, world!");  
// Output: Hello, world!
```

## Comments

Comments are bits of text that are ignored by the compiler. They are used to increase the readability of a program.

- Single line comments are created by using `//`.
- Multi-line comments are created by starting with `/*` and ending with `*/`.

```
// I am a single line comment!  
  
/*  
And I am a  
multi-line comment!  
*/
```

## main() Method

In Java, every application must contain a `main()` method, which is the entry point for the application. All other methods are invoked from the `main()` method.

The signature of the method is `public static void main(String[] args) { }`. It accepts a single argument: an array of elements of type `String`.

```
public class Person {  
  
    public static void main(String[] args) {  
  
        System.out.println("Hello, world!");  
  
    }  
  
}
```

## Classes

A *class* represents a single concept.

A Java program must have one class whose name is the same as the program filename.

In the example, the `Person` class must be declared in a program file named **Person.java**.

```
public class Person {  
  
    public static void main(String[] args) {  
  
        System.out.println("I am a person, not a  
computer.");  
  
    }  
  
}
```

## Compiling Java

In Java, when we compile a program, each individual class is converted into a **.class** file, which is known as byte code. The JVM (Java virtual machine) is used to run the byte code.

## Whitespace

Whitespace, including spaces and newlines, between statements is ignored.

## Statements

In Java, a statement is a line of code that executes a task and is terminated with a `;`.

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```
# Compile the class file:
javac hello.java

# Execute the compiled file:
java hello
```

```
System.out.println("Example of a statement");

System.out.println("Another statement");

// Output:
// Example of a statement
// Another statement
```

```
System.out.println("Java Programming ☕");
```