

## Writing Your First Java Program: "Hello, World!"

Welcome to the world of Java programming! In this exercise, you will write your first Java program that displays the message "Hello, World!" on the screen. This is a classic beginner's exercise and a great way to get started with programming in Java.

### Learning Objectives:

By the end of this exercise, you will:

1. Understand the basic structure of a Java program.
2. Learn how to compile and run a Java program.
3. Familiarize yourself with Java syntax and conventions.

### Problem Description:

Write a Java program that prints the text `Hello, world!` to the console. The program should follow the standard structure of a Java application.

### Requirements:

1. The program must contain a `main` method, which serves as the entry point for the application.
2. Use the `System.out.println` method to display the output.
3. Save the program in a file named `HelloWorld.java`.

## Steps to Complete the Exercise:

### Step 1: Create the Source File

1. Open any text editor (e.g., Notepad, VS Code, IntelliJ IDEA).
2. Type the following code into the editor:

```
// This is a simple Java program
public class HelloWorld {
    public static void main(String[] args) {
        System.out.println("Hello, World!"); // Print "Hello, World!"
    }
}
```

3. Save the file as `HelloWorld.java`. Make sure the file name matches the class name exactly,

including capitalization.

## Step 2: Compile the Program

1. Open the terminal or command prompt.
2. Navigate to the directory where you saved the file.
3. Compile the program using the following command:

```
javac HelloWorld.java
```

If the compilation is successful, a file named `HelloWorld.class` will be created in the same directory.

## Step 3: Run the Program

1. Run the program using the following command:

```
java HelloWorld
```

2. You should see the output:

```
Hello, World!
```

## Additional Notes:

1. Ensure that Java is installed on your system and properly configured. Use the command `java -version` to check your Java installation.
2. If you encounter errors, verify that the class name and file name match and that the syntax is correct.

## Sample Output:

When you run the program, the output will be:

```
Hello, World!
```

## Practice Questions:

1. Modify the program to print your name instead of "Hello, World!".
2. Add another line to print a second message, such as "Welcome to Java programming!".

Congratulations on writing your first Java program! Keep practicing to strengthen your programming skills.