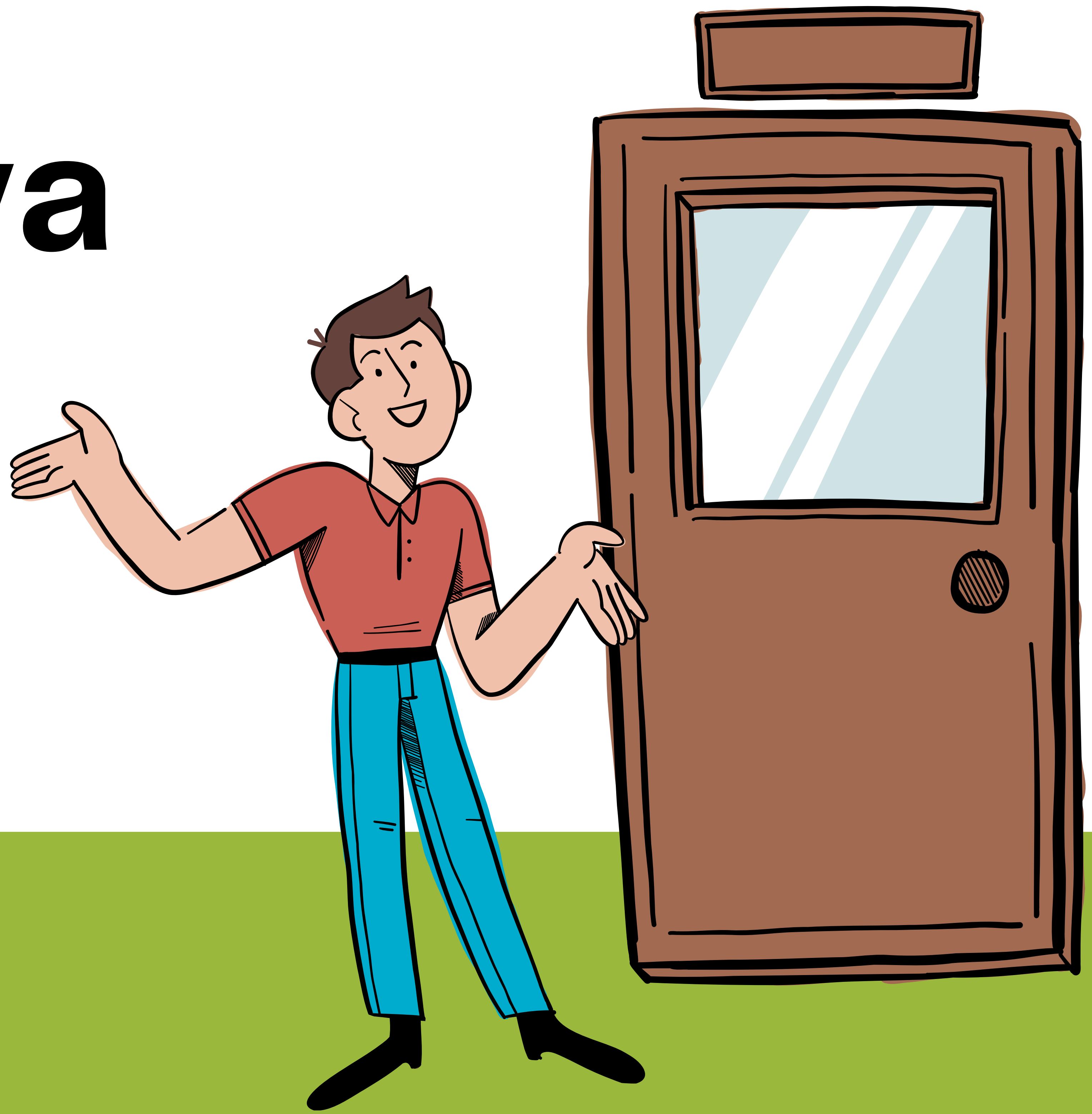
# Session 2: Creating a Java Main Class



# Objectives

## After completing this lesson, you should be able to

- Use the Eclipse IDE to create and test Java classes
  - Write a main method
  - Use System.out.println to write a String literal to system output

## Topics

- Java classes and packages
- The main method

# Java Classes

- A Java class is the building block of a Java application.

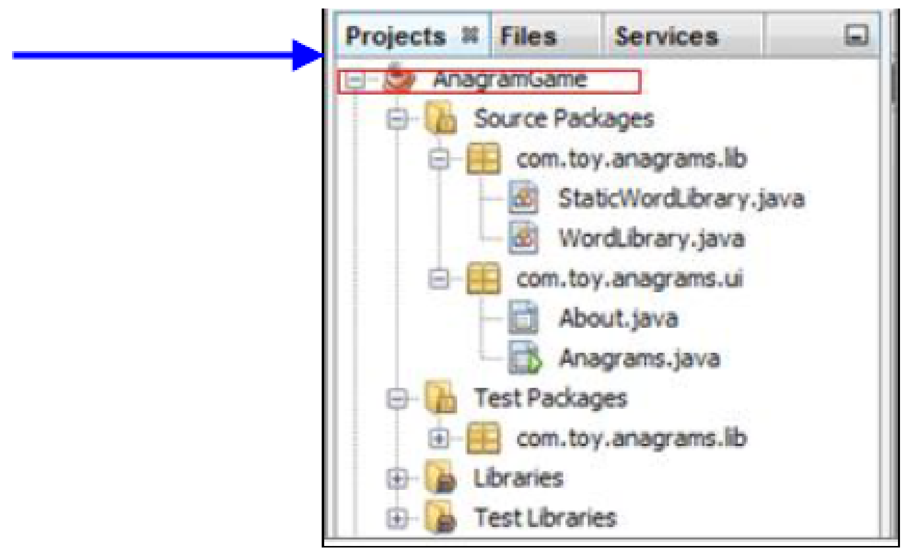
ShoppingCart.java

Includes code that

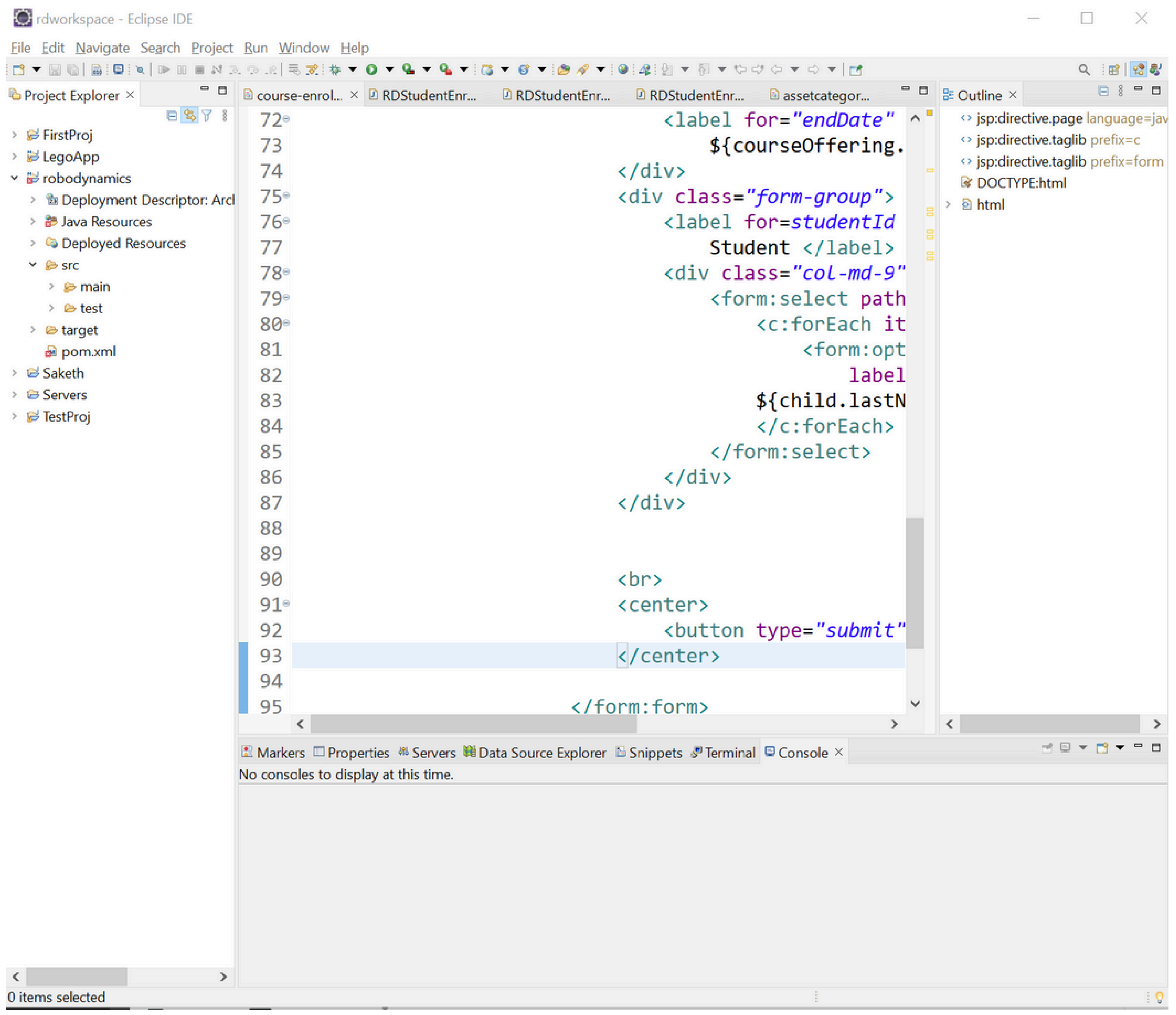
- Allows a customer to add items to the shopping cart
- Provides visual confirmation to the customer

# Java IDE

- A Java Integrated Development Environment (IDE) is a type of software that makes it easier to develop Java applications.
- An IDE provides:
  - Syntax checking
  - Various automation features
  - Runtime environment for testing
- It enables you to organize all your Java resources and environment settings into a Project.
- Projects contain packages.
  - Packages contain files, such as .java.



# Eclipse IDE

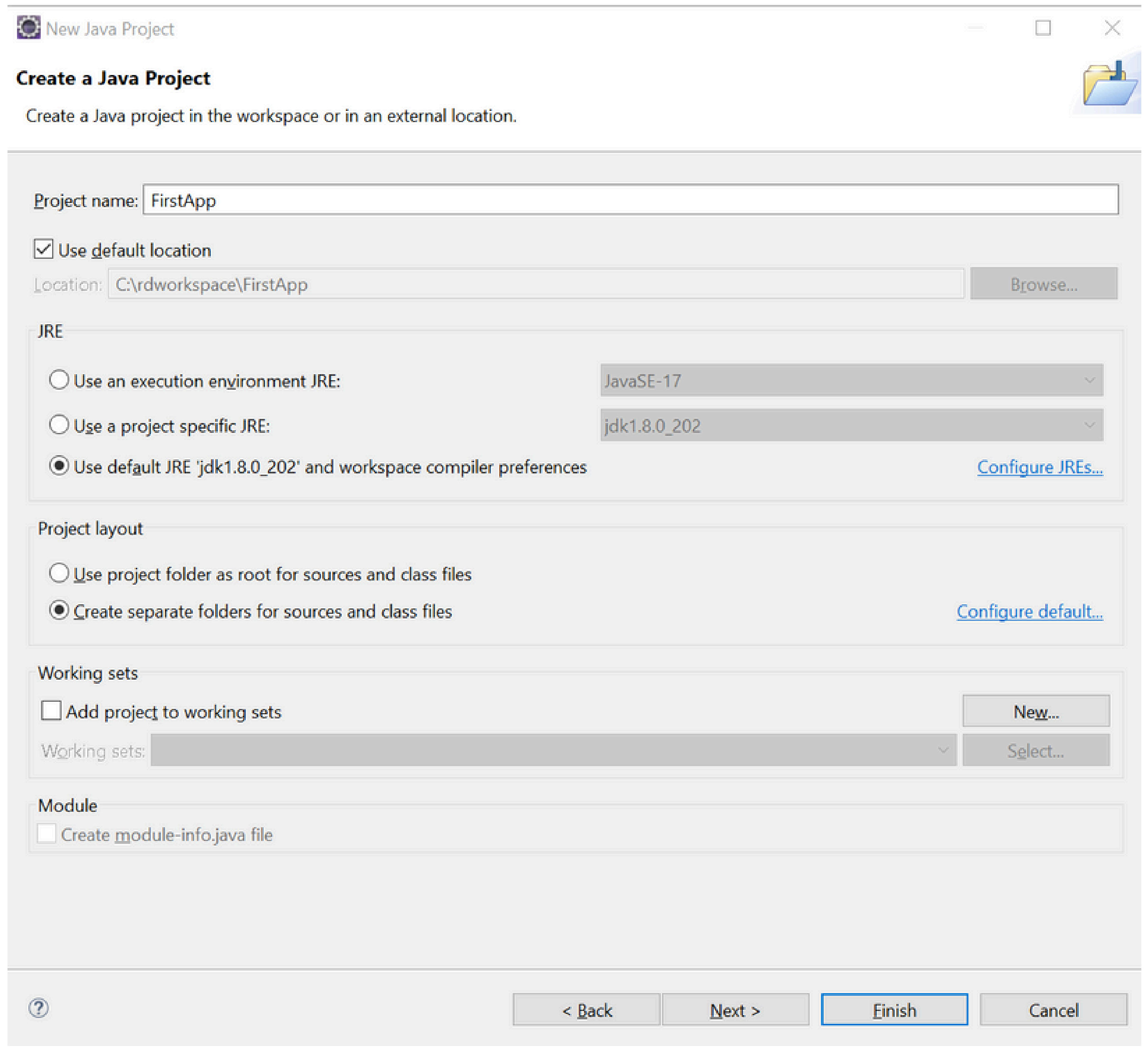


```
        <label for="endDate"
            ${courseOffering.
    </div>
    <div class="form-group">
        <label for=studentId
            Student </label>
        <div class="col-md-9"
            <form:select path
                <c:forEach it
                    <form:opt
                        label
            ${child.lastN
                </c:forEach>
            </form:select>
        </div>
    </div>


    <br>
    <center>
        <button type="submit"
    </center>

</form:form>
```

No consoles to display at this time.

# Creating a Java Project

- Select File > New Project.
- Select Java Application.
- Name and set the location for the project.
- Select “Create Main Class” if you want it done for you automatically.
- Click Finish.



New Java Project

**Create a Java Project**

Create a Java project in the workspace or in an external location.

Project name: FirstApp

☑ Use default location

Location: C:\rdworkspace\FirstApp

JRE

○ Use an execution environment JRE: JavaSE-17

○ Use a project specific JRE: jdk1.8.0_202

● Use default JRE 'jdk1.8.0_202' and workspace compiler preferences

Project layout

○ Use project folder as root for sources and class files

● Create separate folders for sources and class files

Working sets

☐ Add project to working sets

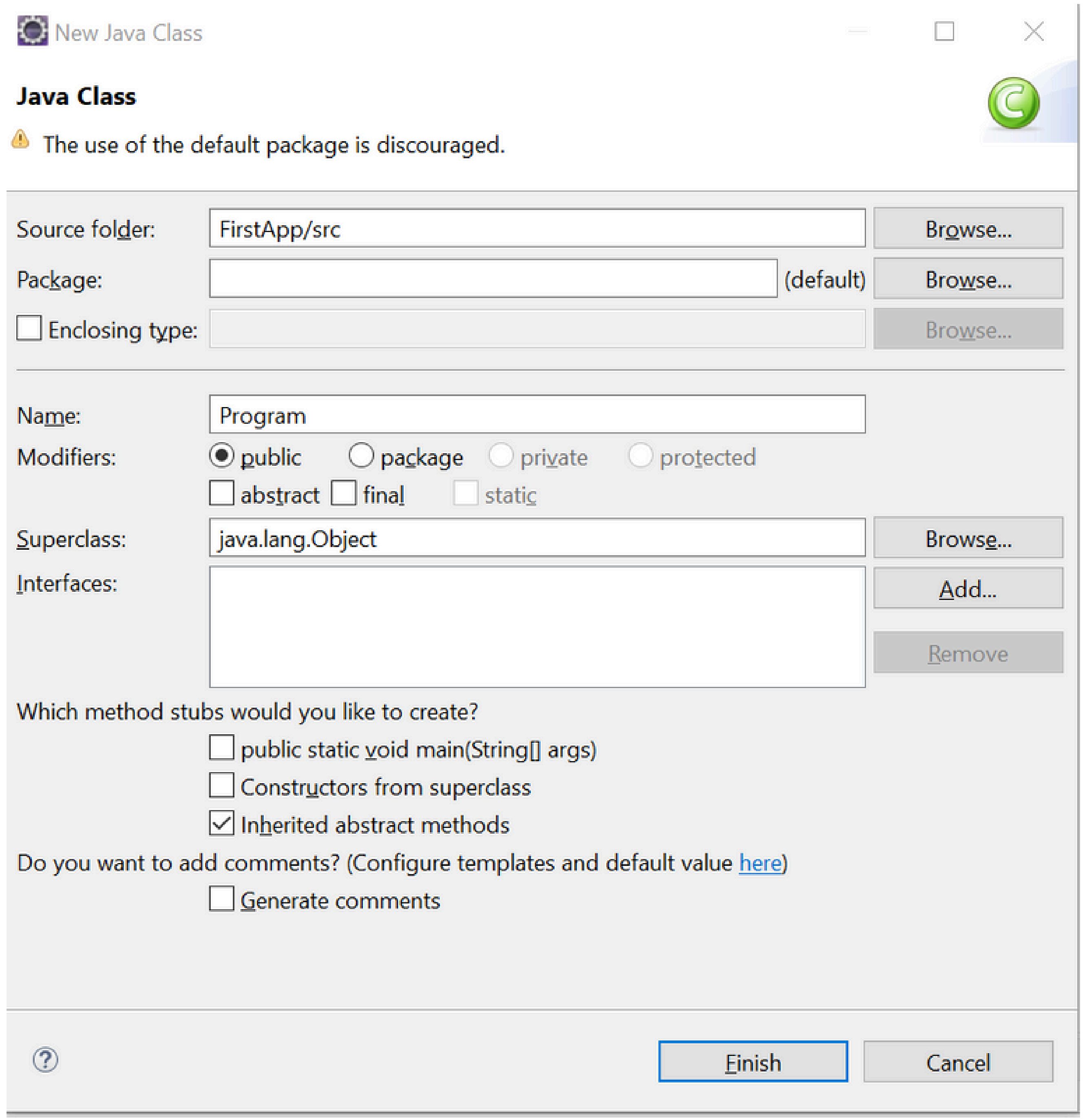
Working sets:

Module

☐ Create module-info.java file

# Creating a Java Class

- Select File > New File.
- Select your project and choose Java Class.
- Name the class.
- Assign a package.
- Click Finish.


New Java Class

**Java Class**

The use of the default package is discouraged.

Source folder: FirstApp/src

Package: (default)

☐ Enclosing type:

Name: Program

Modifiers: [✓ public] package private protected

☐ abstract ☐ final ☐ static

Superclass: java.lang.Object

Interfaces:

Which method stubs would you like to create?

☐ public static void main(String[] args)

☐ Constructors from superclass

☑ Inherited abstract methods

Do you want to add comments? (Configure templates and default value here)

☐ Generate comments

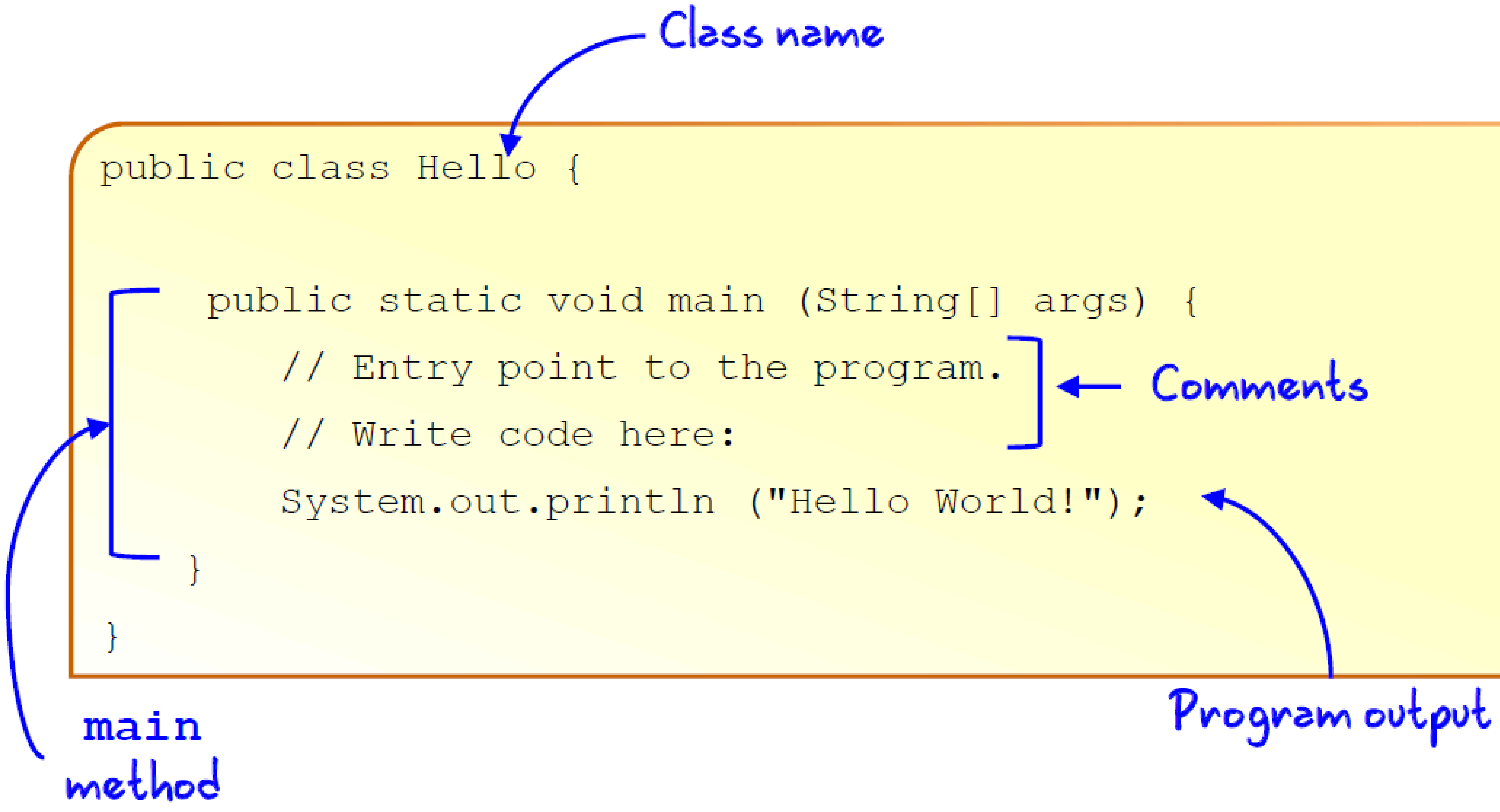
# The main Method

- It is a special method that the JVM recognizes as the starting point for every Java program.
- The syntax is always the same:

```
public static void main (String[] args) {
   // code goes here in the code block
}
```

- It surrounds entire method body with braces { } .

# A main Class Example



```
public class Hello {

    public static void main (String[] args) {
        // Entry point to the program.
        // Write code here:
        System.out.println ("Hello World!");
    }
}
```

# Output to the Console

- Syntax:

```
System.out.println (<some string value>);
```

- Example:

String literal

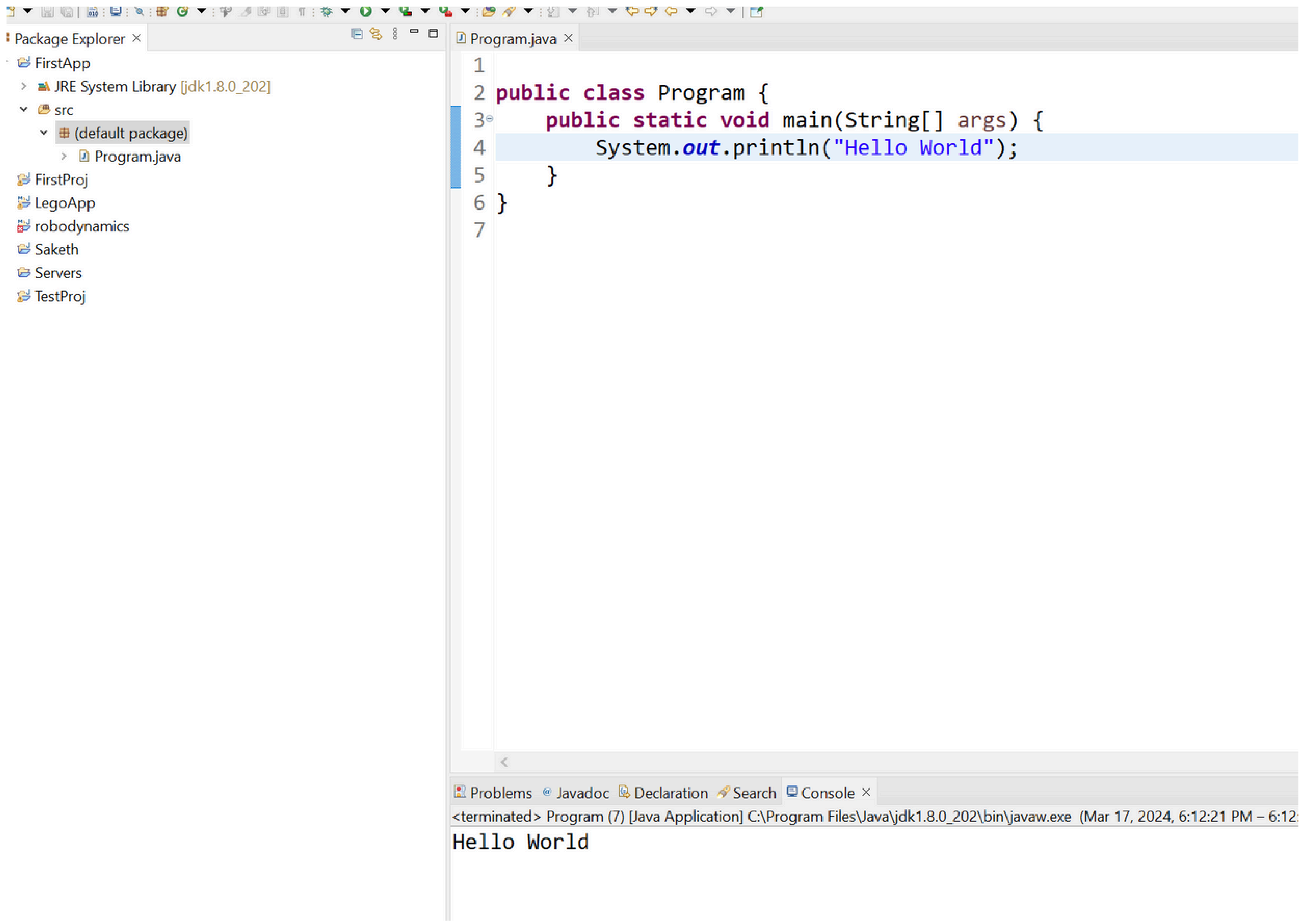
```
System.out.println ("This is my message.");
```

Be sure to include the semicolon

## Avoid syntax errors

- NetBeans will tell you if you have done something wrong.
- Common errors include:
    - Unrecognized word (check for case-sensitivity error)
    - Missing close quotation mark
    - Unmatched brace
    - Missing semicolon

# Compiling and Running a Program by Using NetBeans



```java

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

```

```
<terminated> Program (7) [Java Application] C:\Program Files\Java\jdk1.8.0_202\bin\javaw.exe  (Mar 17, 2024, 6:12:21 PM – 6:12
Hello World
```