

Java Programming I

Lab0

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Spring 2026

3/4/2026

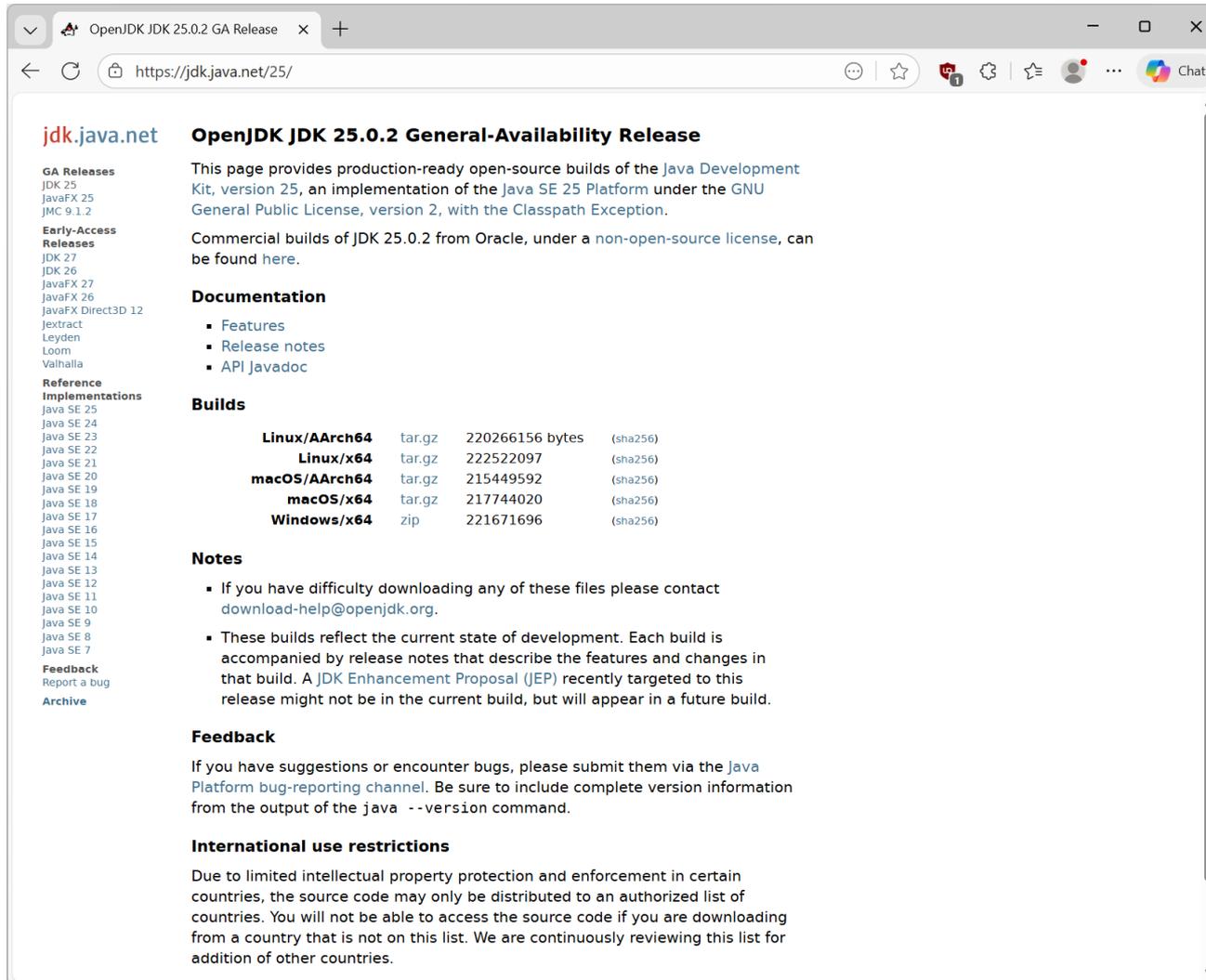
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Dankook University

Lab0

1. Install OpenJDK 25.0.2 & Set Environment Variables
<https://jdk.java.net/>
2. Download Visual Studio Code & Install
<https://code.visualstudio.com/download#>
3. Install "Extension Pack for Java" In Visual Studio Code which supports Java version 1.5 or above.
4. Run Hello.java

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Download OpenJDK 25.0.2 <https://jdk.java.net/25/>



The screenshot shows a web browser window displaying the OpenJDK 25.0.2 General-Availability Release page. The page is titled "OpenJDK JDK 25.0.2 General-Availability Release" and provides information about the production-ready open-source builds of the Java Development Kit, version 25. The page is organized into several sections: GA Releases, Early-Access Releases, Documentation, Builds, Notes, Feedback, and International use restrictions. The Builds section contains a table of download links for various operating systems and architectures.

GA Releases
JDK 25
JavaFX 25
JMC 9.1.2

Early-Access Releases
JDK 27
JDK 26
JavaFX 27
JavaFX 26
JavaFX Direct3D 12
jeextract
Leyden
Loom
Valhalla

Reference Implementations
Java SE 25
Java SE 24
Java SE 23
Java SE 22
Java SE 21
Java SE 20
Java SE 19
Java SE 18
Java SE 17
Java SE 16
Java SE 15
Java SE 14
Java SE 13
Java SE 12
Java SE 11
Java SE 10
Java SE 9
Java SE 8
Java SE 7

Feedback
Report a bug

Archive

OpenJDK JDK 25.0.2 General-Availability Release

This page provides production-ready open-source builds of the [Java Development Kit, version 25](#), an implementation of the [Java SE 25 Platform](#) under the [GNU General Public License, version 2](#), with the [Classpath Exception](#).

Commercial builds of JDK 25.0.2 from Oracle, under a [non-open-source license](#), can be found [here](#).

Documentation

- Features
- Release notes
- API Javadoc

Builds

Linux/AArch64	tar.gz	220266156 bytes	(sha256)
Linux/x64	tar.gz	222522097	(sha256)
macOS/AArch64	tar.gz	215449592	(sha256)
macOS/x64	tar.gz	217744020	(sha256)
Windows/x64	zip	221671696	(sha256)

Notes

- If you have difficulty downloading any of these files please contact download-help@openjdk.org.
- These builds reflect the current state of development. Each build is accompanied by release notes that describe the features and changes in that build. A [JDK Enhancement Proposal \(JEP\)](#) recently targeted to this release might not be in the current build, but will appear in a future build.

Feedback

If you have suggestions or encounter bugs, please submit them via the [Java Platform bug-reporting channel](#). Be sure to include complete version information from the output of the `java --version` command.

International use restrictions

Due to limited intellectual property protection and enforcement in certain countries, the source code may only be distributed to an authorized list of countries. You will not be able to access the source code if you are downloading from a country that is not on this list. We are continuously reviewing this list for addition of other countries.

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The image shows three overlapping Windows dialog boxes. The top-left is the 'System Properties' window with the 'Advanced' tab selected. The top-right is the 'Environment Variables' window, showing user and system variables. The bottom window is the 'Edit System Variable' dialog, where the 'JAVA_HOME' variable is being edited with the value 'C:\Program Files\Java\jdk-25.0.2'. A blue box highlights the variable name and value fields in the 'Edit System Variable' dialog.

System Properties (Advanced Tab)

You must be logged on as an Administrator to make most of these changes.

Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings...

User Profiles
Desktop settings related to your sign-in
Settings...

Startup and Recovery
System startup, system failure, and debugging information
Settings...

Environment Variables...

OK Cancel Apply

Environment Variables

User variables for park

Variable	Value
OneDrive	C:\Users\park\OneDrive
Path	C:\Program Files\MySQL\MySQL Shell 8.0\bin\;C:\DevTools\Pyth...
TEMP	C:\Users\park\AppData\Local\Temp
TMP	C:\Users\park\AppData\Local\Temp

New... Edit... Delete

System variables

Variable	Value
ComSpec	C:\WINDOWS\system32\cmd.exe
DriverData	C:\Windows\System32\Drivers\DriverData
GOOGLE_APPLICATION_CR...	C:\Users\park\culturalheritage-d0d31e21bca7.json
JAVA_HOME	C:\Program Files\Java\jdk-25.0.2
KINECTSDK20_DIR	C:\Program Files\Microsoft SDKs\Kinect\v2.0_1409\
Program Files\Oculus\	Program Files\Oculus\
ndows_NT	ndows_NT

New... Edit... Delete

Edit System Variable

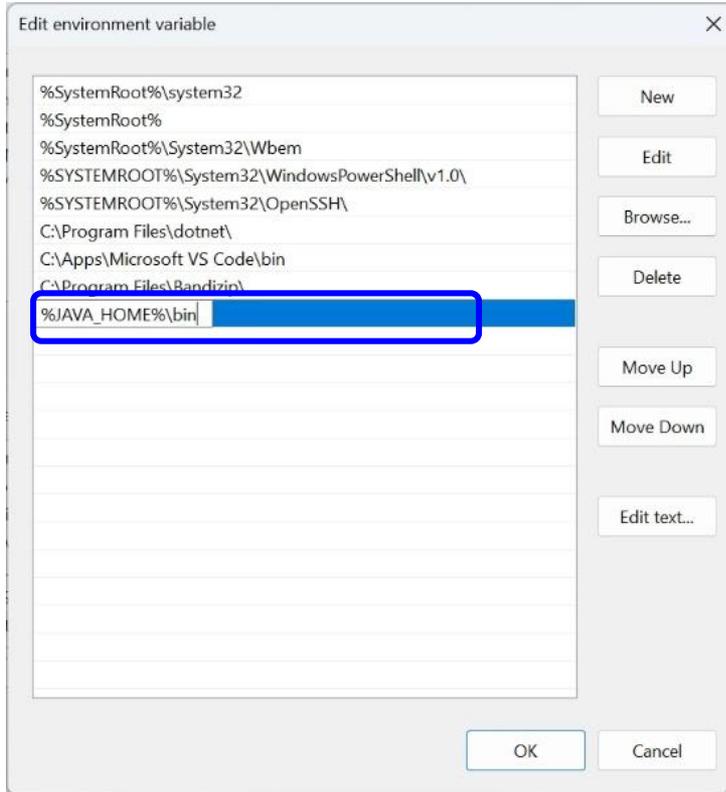
Variable name: JAVA_HOME

Variable value: C:\Program Files\Java\jdk-25.0.2

Browse Directory... Browse File... OK Cancel

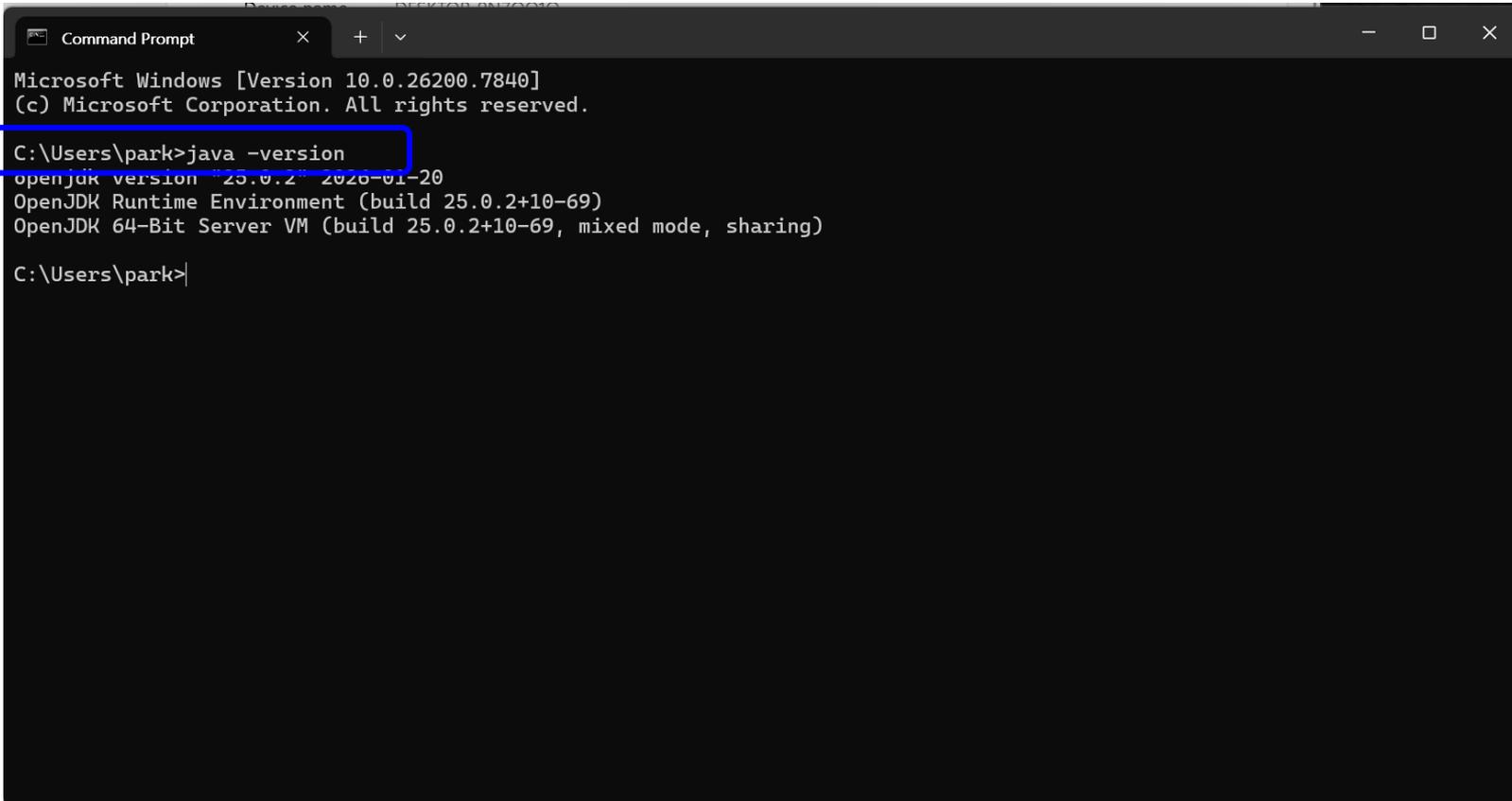
OK Cancel

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□ Run java -version



```
Microsoft Windows [Version 10.0.26200.7840]
(c) Microsoft Corporation. All rights reserved.

C:\Users\park>java -version
openjdk version "25.0.2" 2026-01-20
OpenJDK Runtime Environment (build 25.0.2+10-69)
OpenJDK 64-Bit Server VM (build 25.0.2+10-69, mixed mode, sharing)

C:\Users\park>
```

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Download Visual Studio Code & Install

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[Version 1.86](#) is now available! Read about the new features and fixes from January.

Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.



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Windows 10, 11

User Installer [x64](#) [Arm64](#)
System Installer [x64](#) [Arm64](#)
.zip [x64](#) [Arm64](#)
CLI [x64](#) [Arm64](#)



[↓ .deb](#) [↓ .rpm](#)
Debian, Ubuntu Red Hat, Fedora, SUSE

.deb [x64](#) [Arm32](#) [Arm64](#)
.rpm [x64](#) [Arm32](#) [Arm64](#)
.tar.gz [x64](#) [Arm32](#) [Arm64](#)
Snap [Snap Store](#)
CLI [x64](#) [Arm32](#) [Arm64](#)



[↓ Mac](#)
macOS 10.15+

.zip [Intel chip](#) [Apple silicon](#) [Universal](#)
CLI [Intel chip](#) [Apple silicon](#)

By downloading and using Visual Studio Code, you agree to the [license terms](#) and [privacy statement](#).

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Install "Extension Pack for Java"

The screenshot displays the Visual Studio Code interface with the Extensions Marketplace open. The 'Extension Pack for Java' by Microsoft is highlighted in the 'POPULAR' section of the left sidebar. The main panel shows the details for this extension, including its version (v0.25.13), a rating of 4 stars, and a description: 'Popular extensions for Java development that provides Java L...'. The 'Install' button is highlighted with a blue box. Below the main extension, a list of 'Extensions Included' is shown, including IntelliCode, Language Support for Java(TM) by Red Hat, and others. The right sidebar shows categories like Programming, Languages, Snippets, Linters, Debuggers, Formatters, and Extension Packs. The bottom right corner shows the extension's publication date (9/27/2017) and the last update date (8/2/2023).

Visual Studio Code interface showing the 'Extension Pack for Java' by Microsoft. The extension is highlighted in the 'POPULAR' section of the left sidebar. The main panel displays the extension details, including the version (v0.25.13), a rating of 4 stars, and a description: 'Popular extensions for Java development that provides Java L...'. The 'Install' button is highlighted with a blue box. Below the main extension, a list of 'Extensions Included' is shown, including IntelliCode, Language Support for Java(TM) by Red Hat, and others. The right sidebar shows categories like Programming, Languages, Snippets, Linters, Debuggers, Formatters, and Extension Packs. The bottom right corner shows the extension's publication date (9/27/2017) and the last update date (8/2/2023).

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The screenshot displays the Visual Studio Code interface with the 'Extension Pack for Java' extension installed. The left sidebar shows the 'EXTENSIONS' view with a search bar and a list of installed extensions. The main area shows the details for the 'Extension Pack for Java' extension, including its version (v0.25.13), publisher (Microsoft), and a list of included extensions.

EXTENSIONS

Search Extensions in Marketplace

INSTALLED (8)

- Debugger for Java** (Microsoft)
- Extension Pack for Java** (Microsoft)
- IntelliCode** (Microsoft)
- IntelliCode API Usage Examples** (Microsoft)
- Language Support for Java** (Red Hat)
- Maven for Java** (Microsoft)
- Project Manager for Java** (Microsoft)
- Test Runner for Java** (Microsoft)

RECOMMENDED (0)

Extension: Extension Pack for Java

Extension Pack for Java v0.25.13
Microsoft | 20,961,919 | 5 stars (63)

Popular extensions for Java development that provides Java IntelliSense, debugging, testing, Maven/Gra...

[Disable](#) [Uninstall](#) [Switch to Pre-Release Version](#)

This extension is enabled globally.

DETAILS | **FEATURE CONTRIBUTIONS** | **CHANGELOG** | **RUNTIME STATUS**

Extension Pack (6)

- Language Support for Java(TM) by Red Hat**
Java Linting, Intellisense, formatting, refactor...
- Debugger for Java**
A lightweight Java debugger for Visual Studi...

Categories

- Programming Languages
- Snippets
- Linters
- Debuggers
- Formatters
- Extension Packs

Extension Resources

- Marketplace
- Repository
- License
- Microsoft

More Info

Published: 9/27/2017, 18:38:52
Last released: 8/2/2023, 17:19:38
Identifier: vsc.java.vscod...
java-pack

Extension Pack for Java

Extension Pack for Java is a collection of popular extensions that can help write, test and debug Java applications in Visual Studio Code. Check out Java in VS Code to get started.

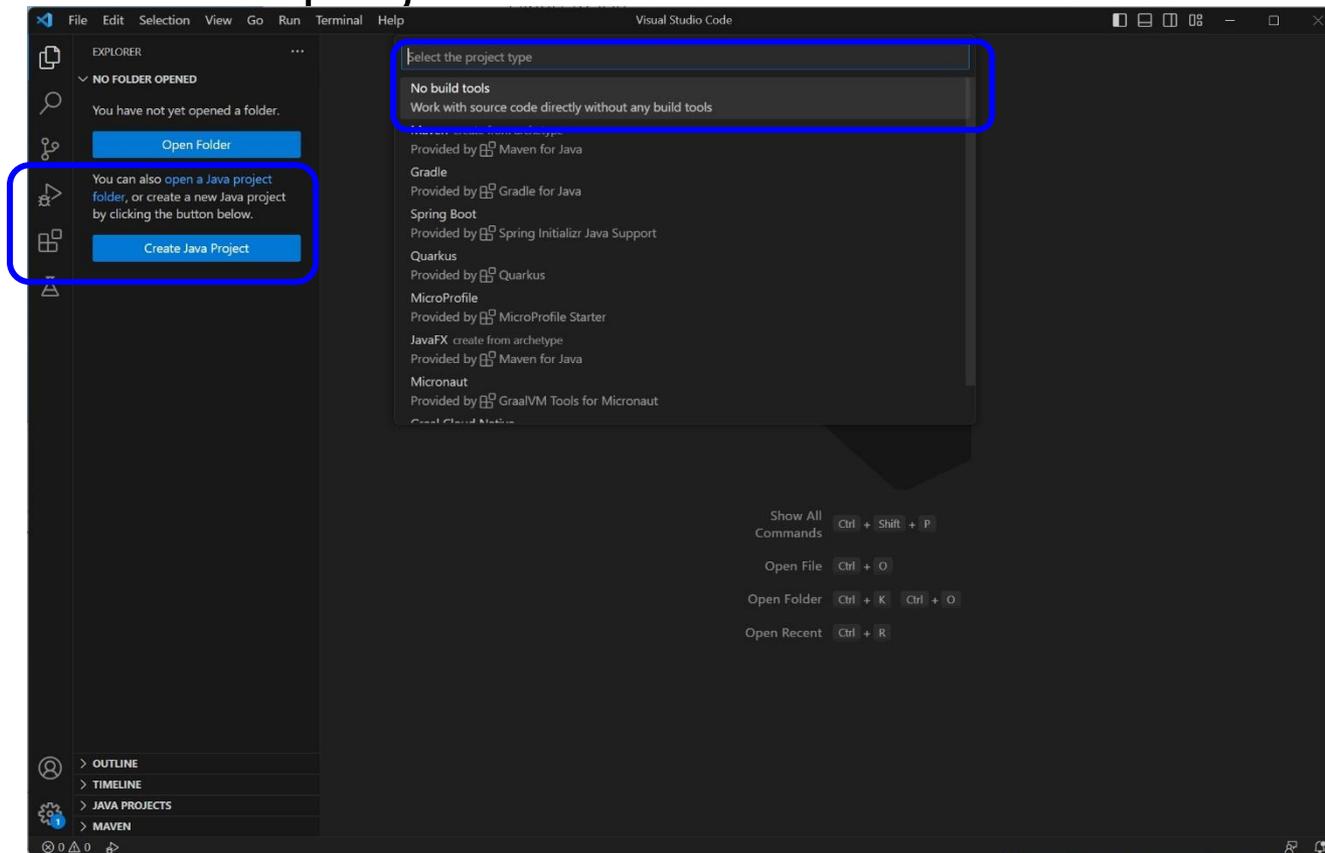
Extensions Included

By installing Extension Pack for Java, the following extensions are installed:

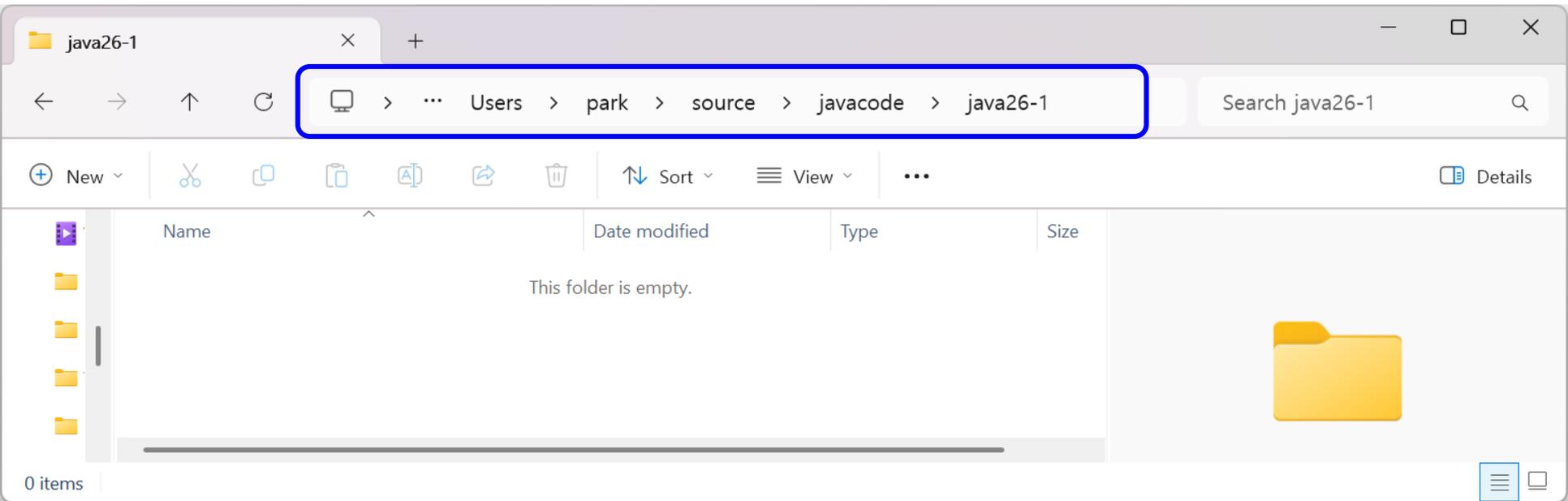
- Language Support for Java™ by Red Hat
 - Code Navigation
 - Auto Completion
 - Refactoring
 - Code Snippets
- Debugger for Java

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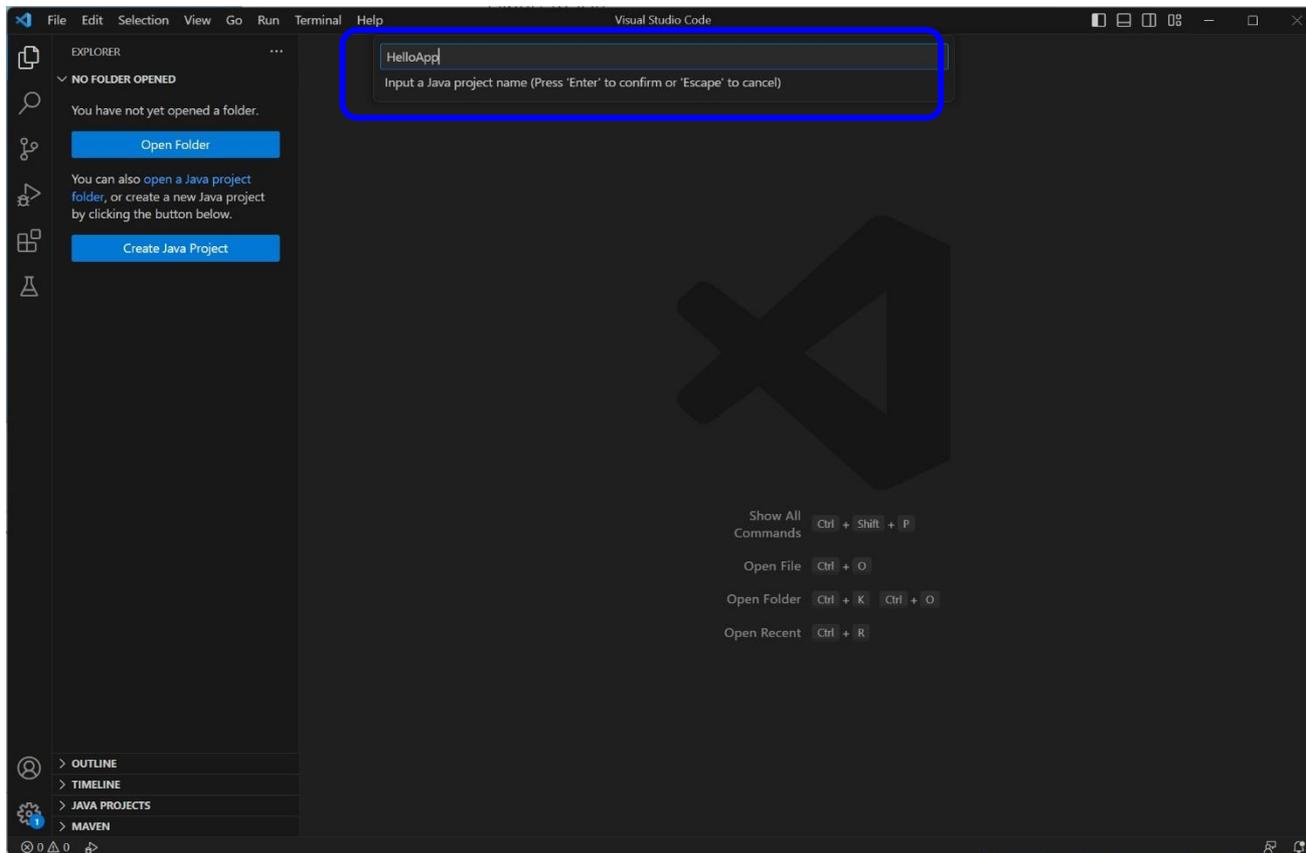
□ Create a Java project: Hello



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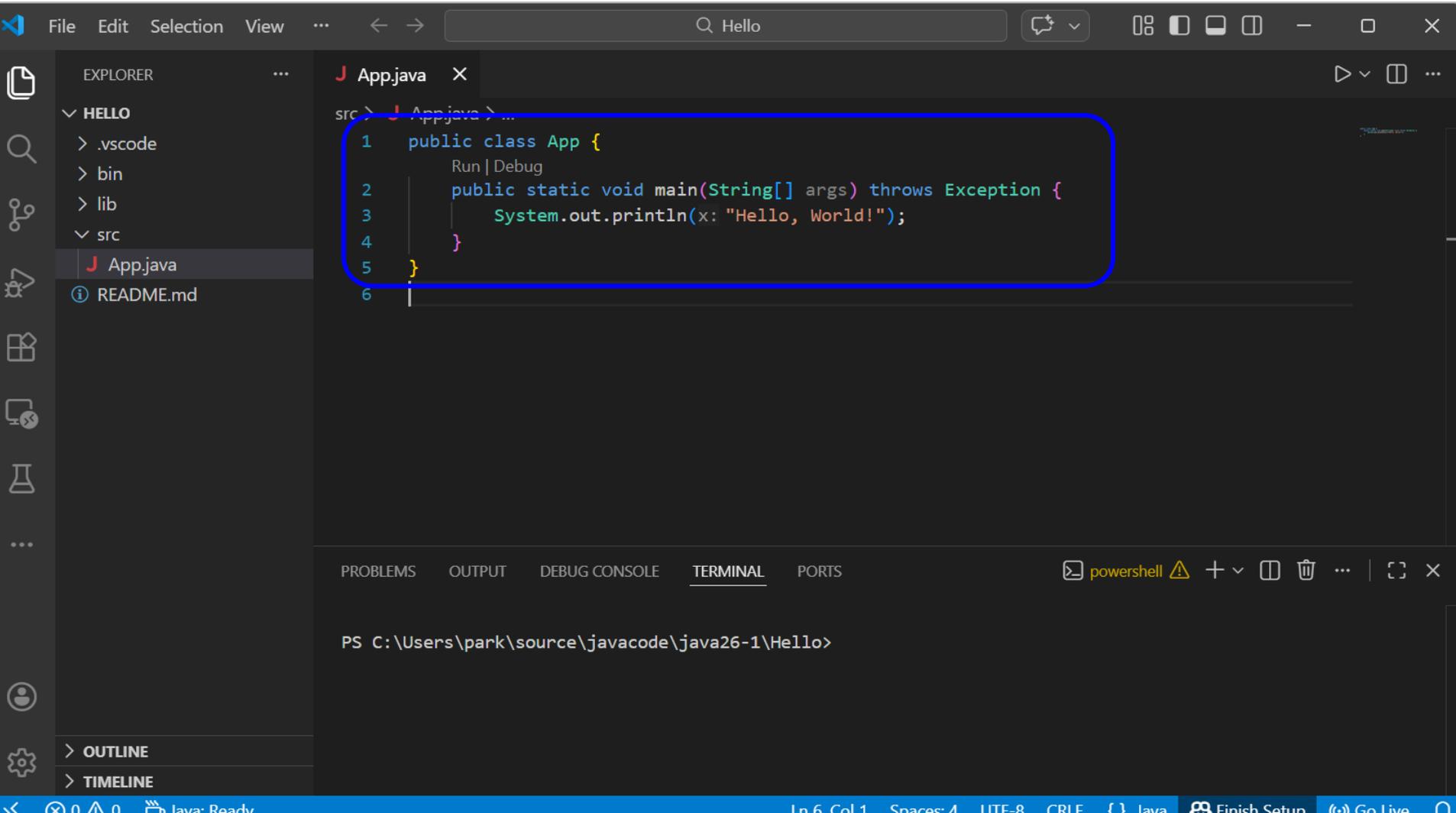


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□ Create App.java



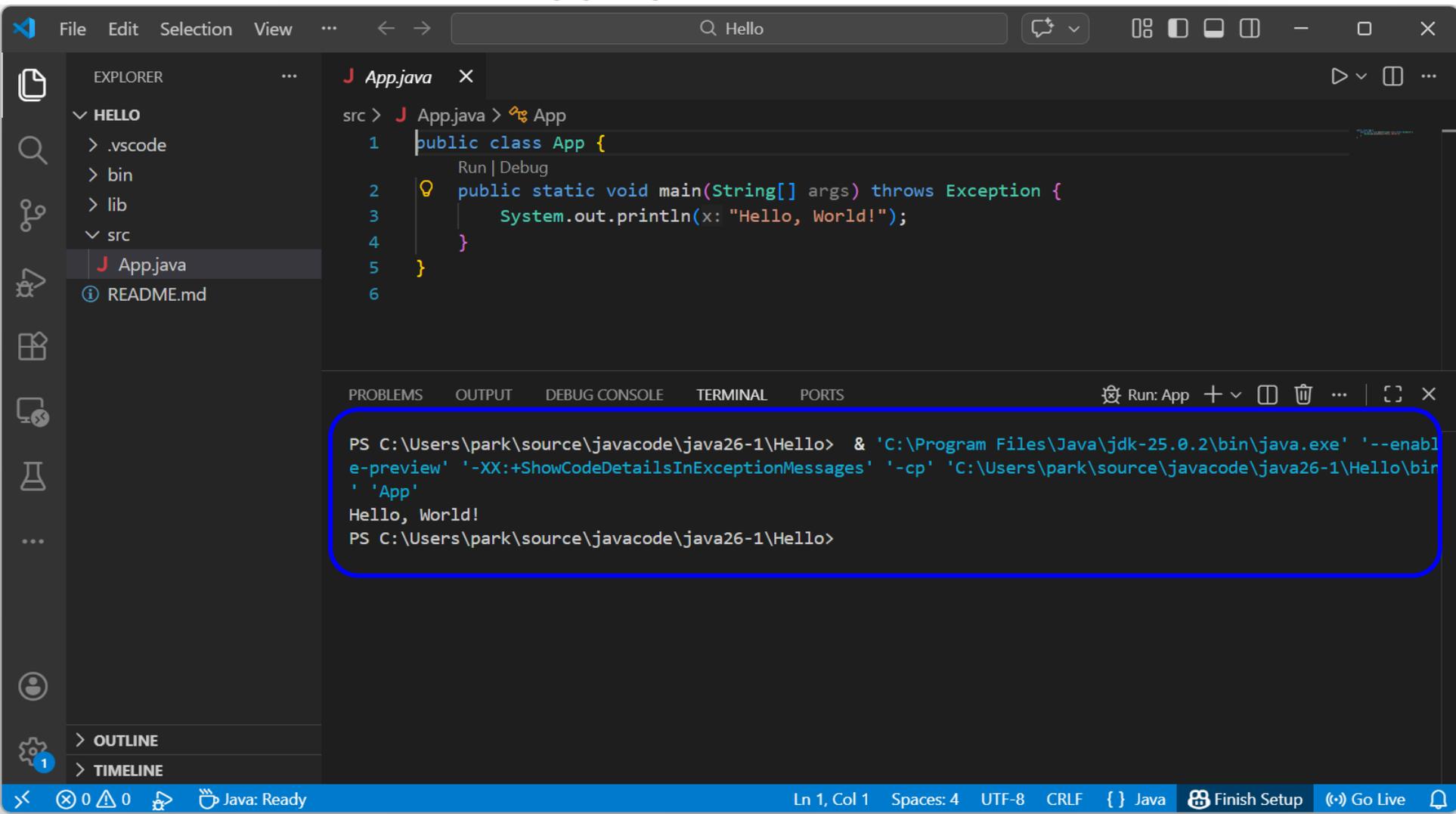
The screenshot shows the Visual Studio Code editor interface. The Explorer sidebar on the left shows a project named 'HELLO' with a file named 'App.java' selected. The main editor window displays the following Java code:

```
1 public class App {  
    Run | Debug  
2     public static void main(String[] args) throws Exception {  
3         System.out.println(x: "Hello, World!");  
4     }  
5 }  
6
```

The code is highlighted with a blue rounded rectangle. The terminal at the bottom shows the command prompt: 'PS C:\Users\park\source\javacode\java26-1\Hello>'. The status bar at the bottom indicates 'Java: Ready' and 'Finish Setup'.

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Run Without Debugging



The screenshot shows the Visual Studio Code interface with a Java file named `App.java` open. The code in the editor is:

```
src > J App.java > App
1 public class App {
2     public static void main(String[] args) throws Exception {
3         System.out.println(x: "Hello, World!");
4     }
5 }
6
```

The terminal window at the bottom shows the command used to run the application:

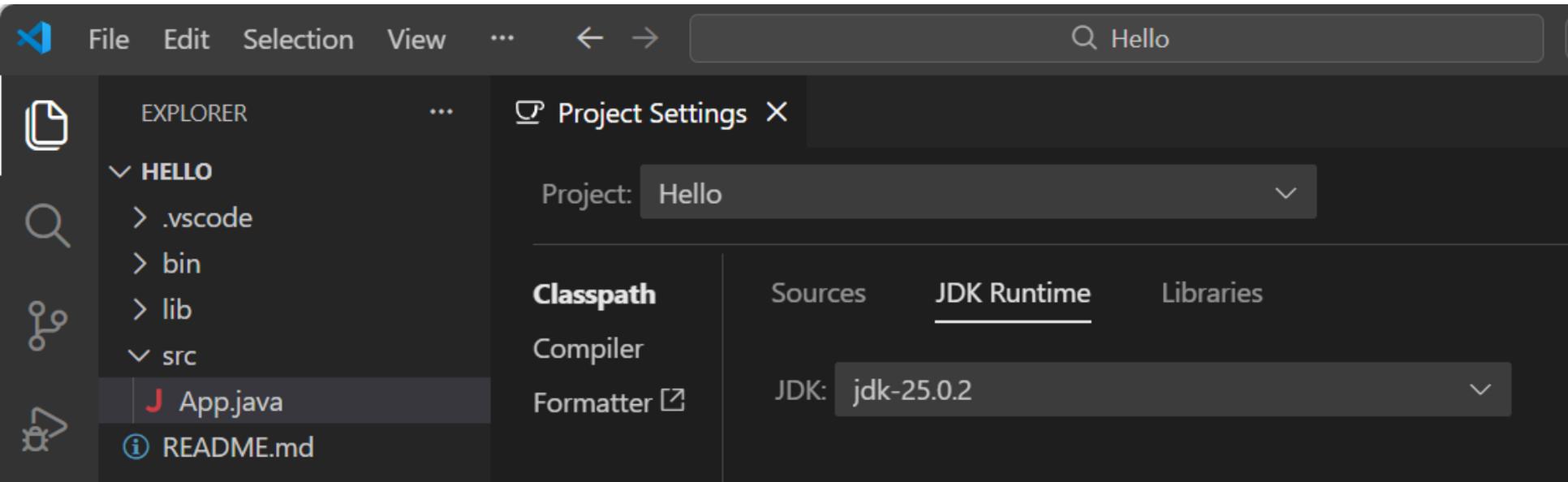
```
PS C:\Users\park\source\javacode\java26-1\Hello> & 'C:\Program Files\Java\jdk-25.0.2\bin\java.exe' '--enabl
e-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\park\source\javacode\java26-1\Hello\bin
' 'App'
Hello, World!
PS C:\Users\park\source\javacode\java26-1\Hello>
```

The terminal output shows the program executed successfully and printed "Hello, World!".

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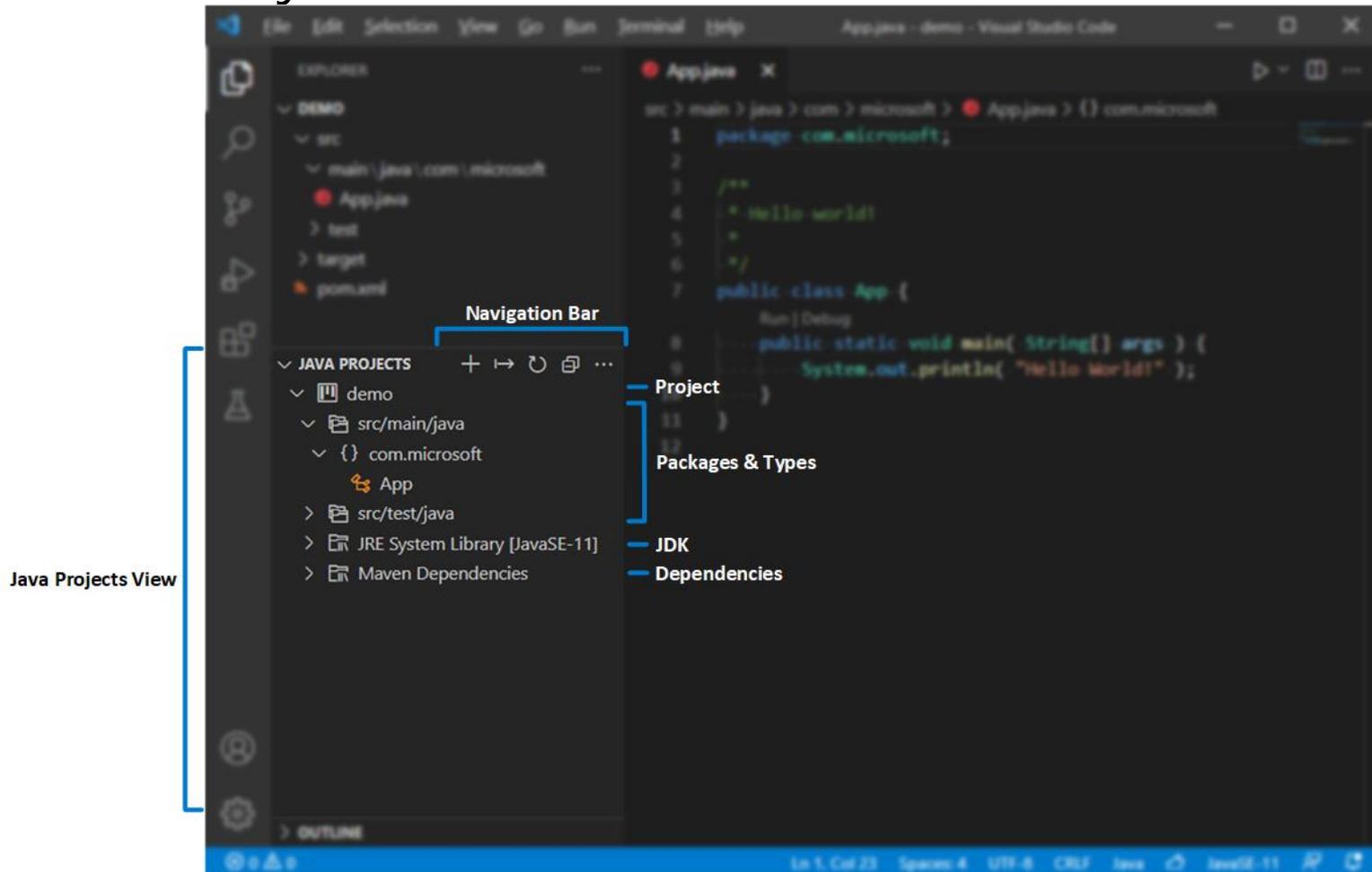
▣ Configure Runtime for Projects

- **Java: Configure Java Runtime in Command Palette** (Ctrl+Shift+P)



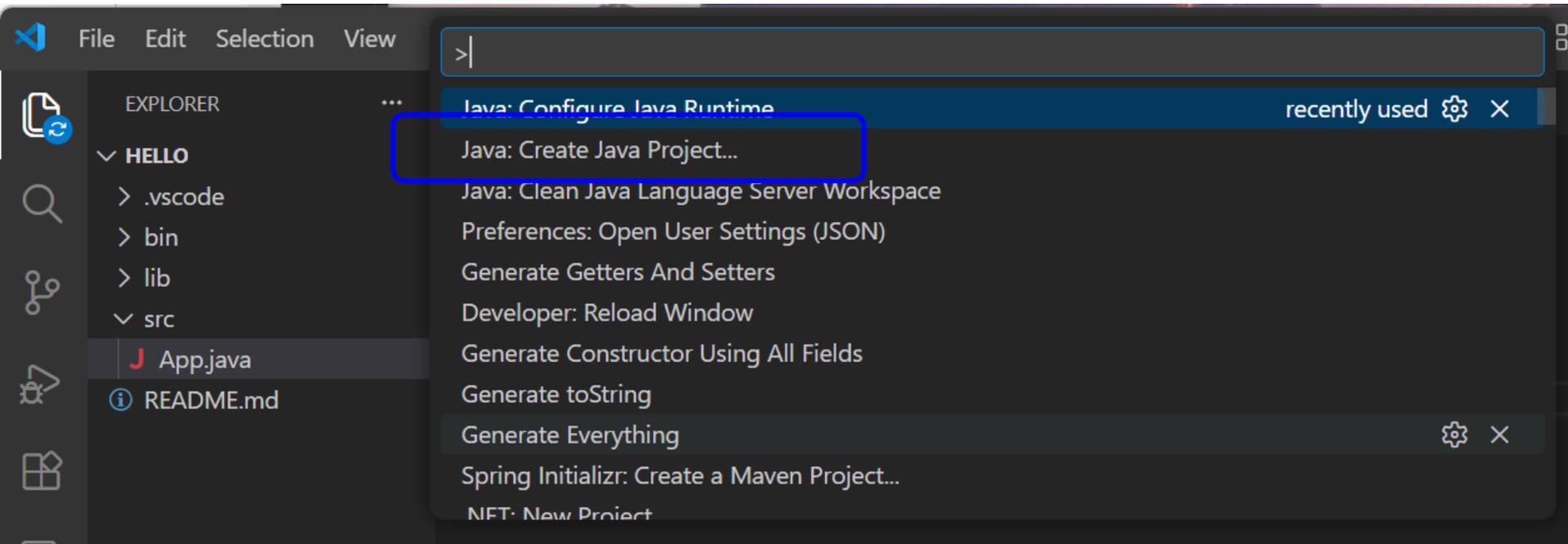
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Java Project View



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- ❑ Create a New Java project by clicking the **+** button in the **navigation bar**, or through the command: **Java: Create Java Project...** in Command Palette (Ctrl+Shift+P).

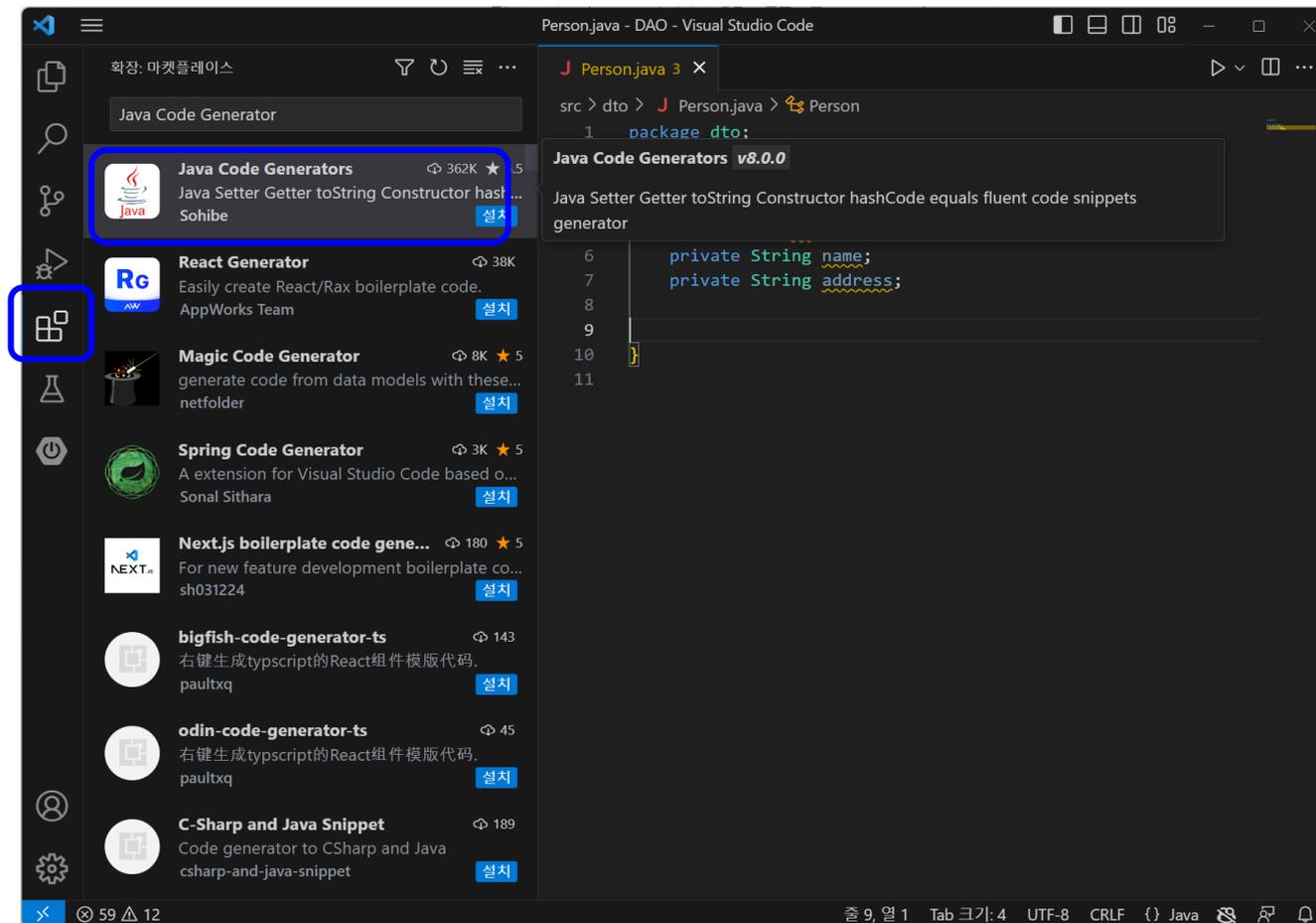


Submit to e-learning

- ❑ Submit the Lab0 assignment (including the 1-page report) to e-learning **(due by 3/10)**.
- ❑ https://code.visualstudio.com/docs/java/java-project#_configure-runtime-for-projects

VS Code Generator

- ❑ **Ctrl + Shift + X (Extensions)**
- ❑ **Install Getter and Setter Generator**



VS Code Getter/Setter

- Drag the member field to create Getter/Setter

```
3
4 public class Person {
5     private int id;
6     private String name;
7     private String address;
8
9     public Person(int id, String name, String address) {
10         this.id = id;
11         this.name = name;
12         this.address = address;
13     }
14
15
16     @Override
17     public String toString() {
18         return "Person [id=" + id + ", name=" + name + ", address=" + address + "]";
19     }
20 }
21
```

VS Code Getter/Setter

- ❑ Ctrl + Shift + P (or F1) prompt command
- ❑ Generate constructor, getter & setter, hashCode & equal, toString

