Java Programming I

Lab0

514760
Spring 2024
3/7/2024
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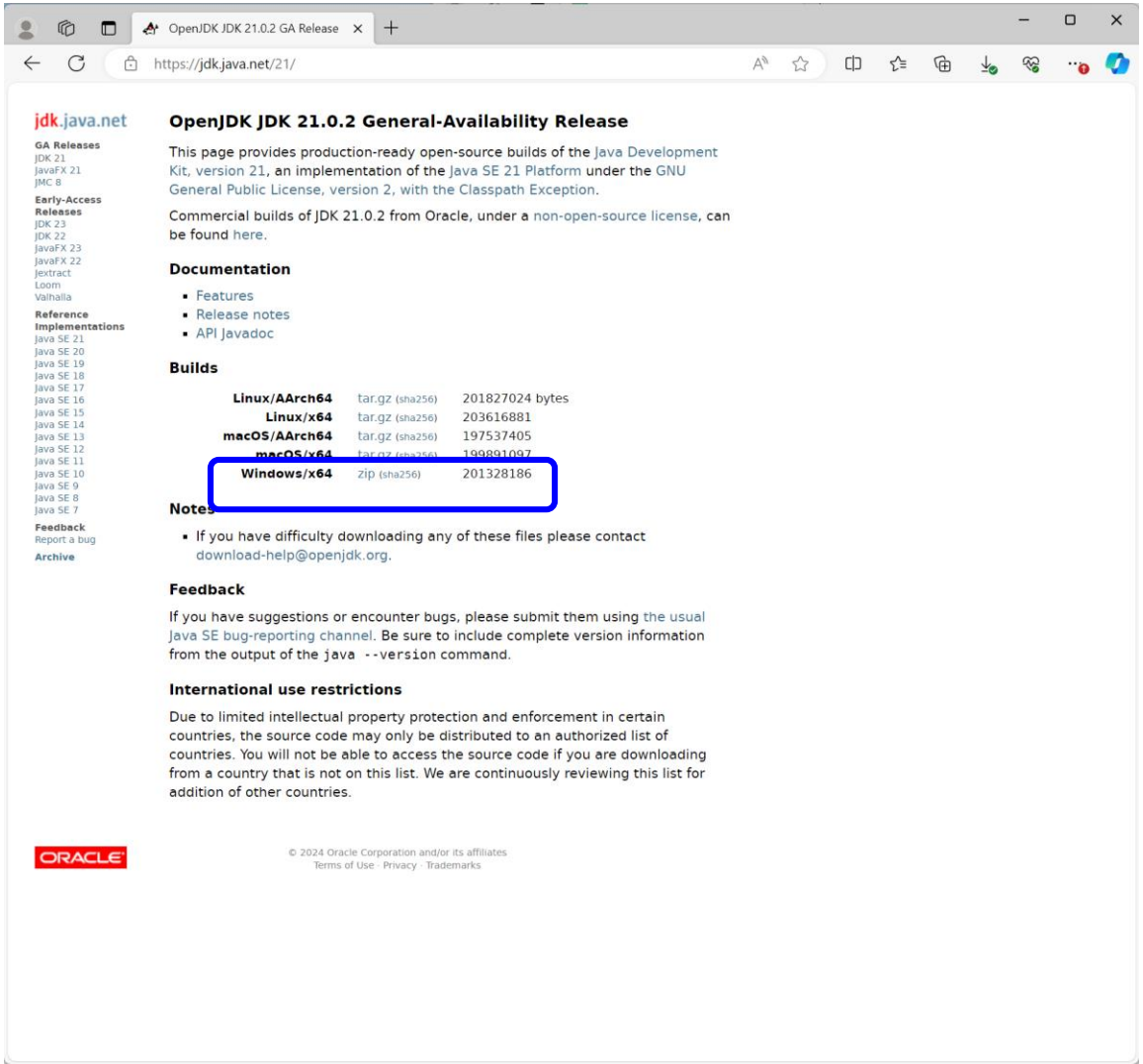
Computer Engineering
Dankook University

Lab0

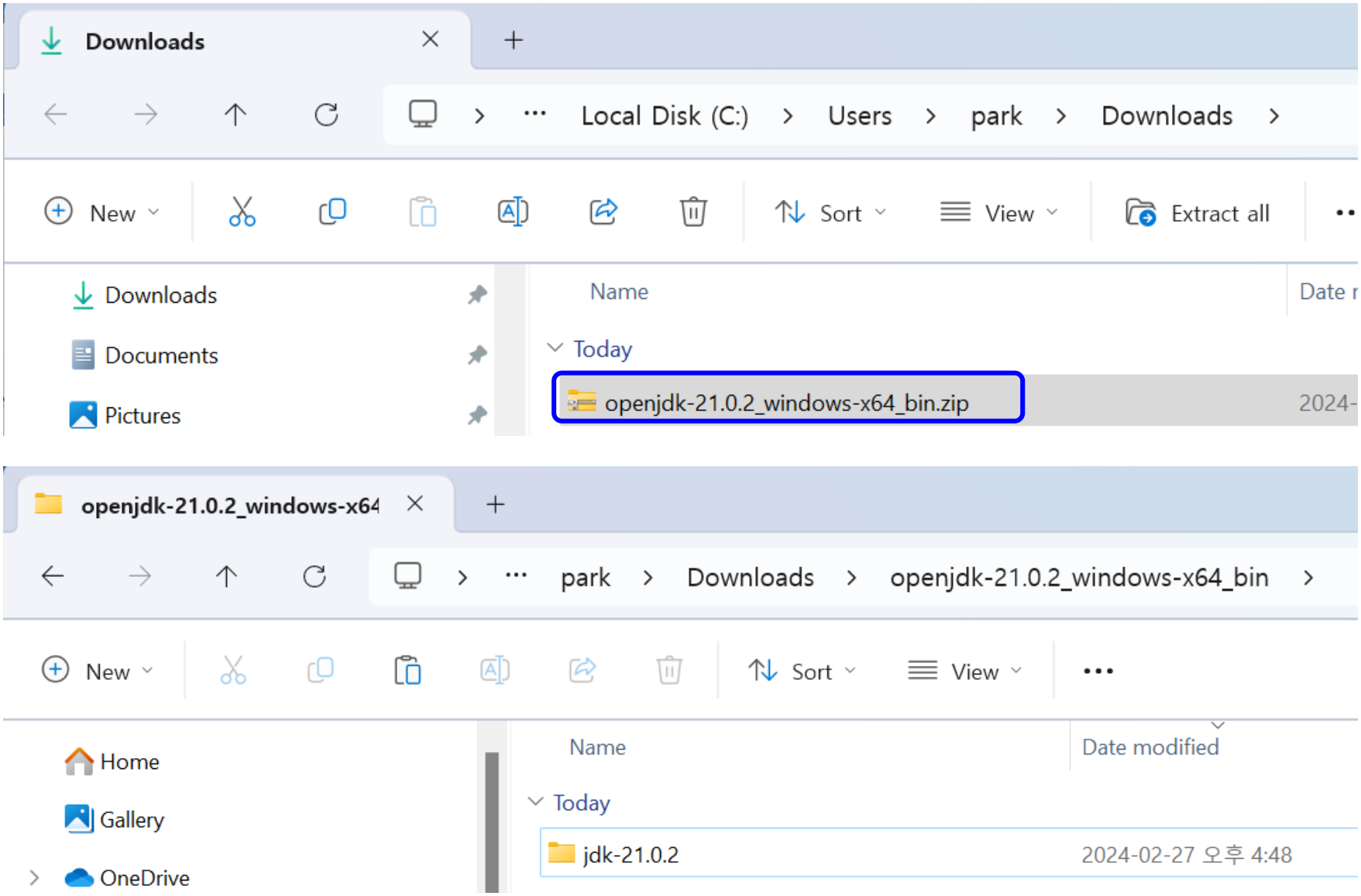
1. Install OpenJDK 21.0.2 & Set Environment Variables
   https://jdk.java.net/
2. Download Visual Studio Code & Install
   https://code.visualstudio.com/download#
3. Install “Extension Pack for Java” In Visual Studio Code which supports Java version 1.5 or above.
4. Run Hello.java

Lab0

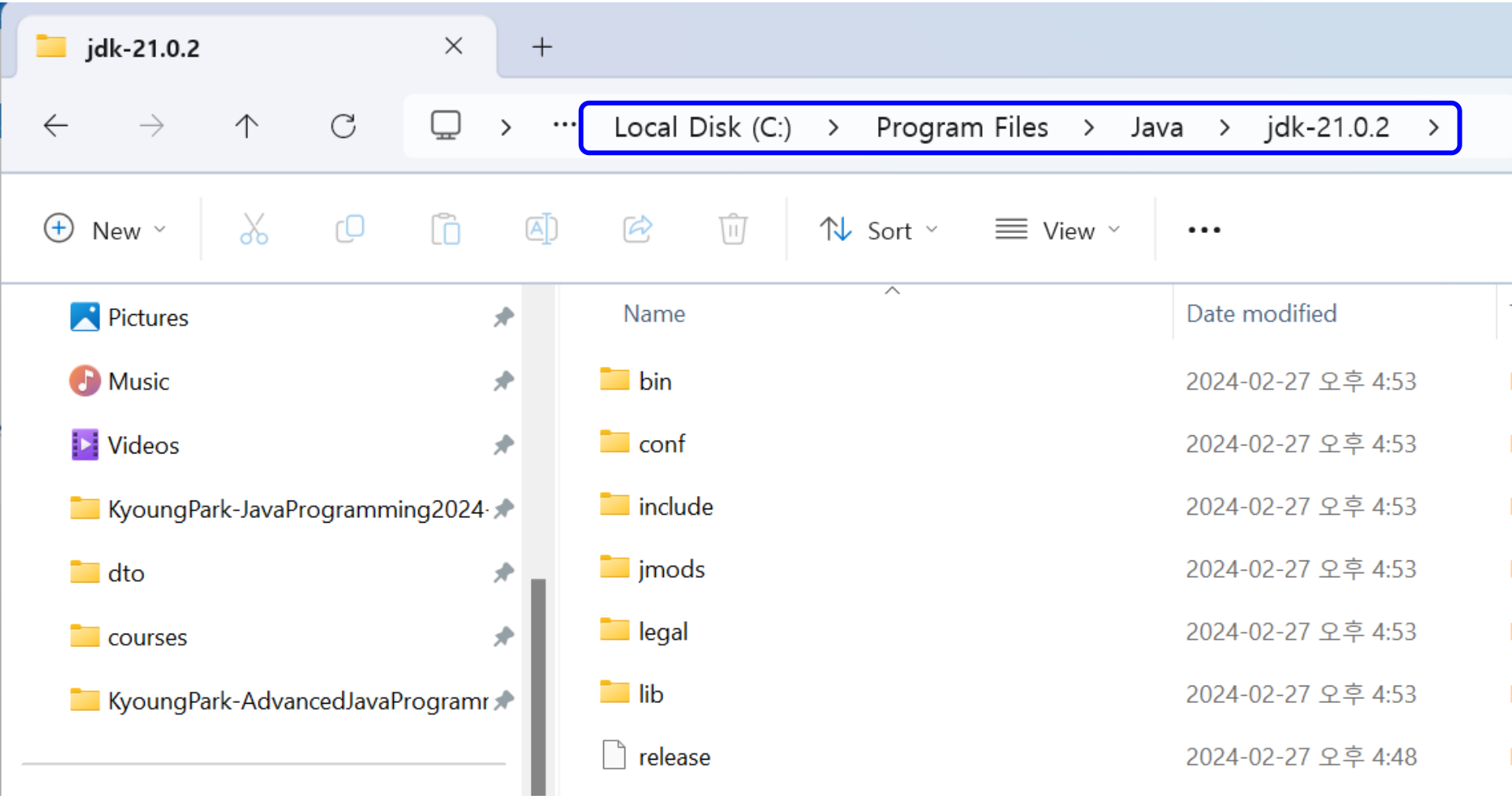
- Download OpenJDK 21.0.2 https://jdk.java.net/21/



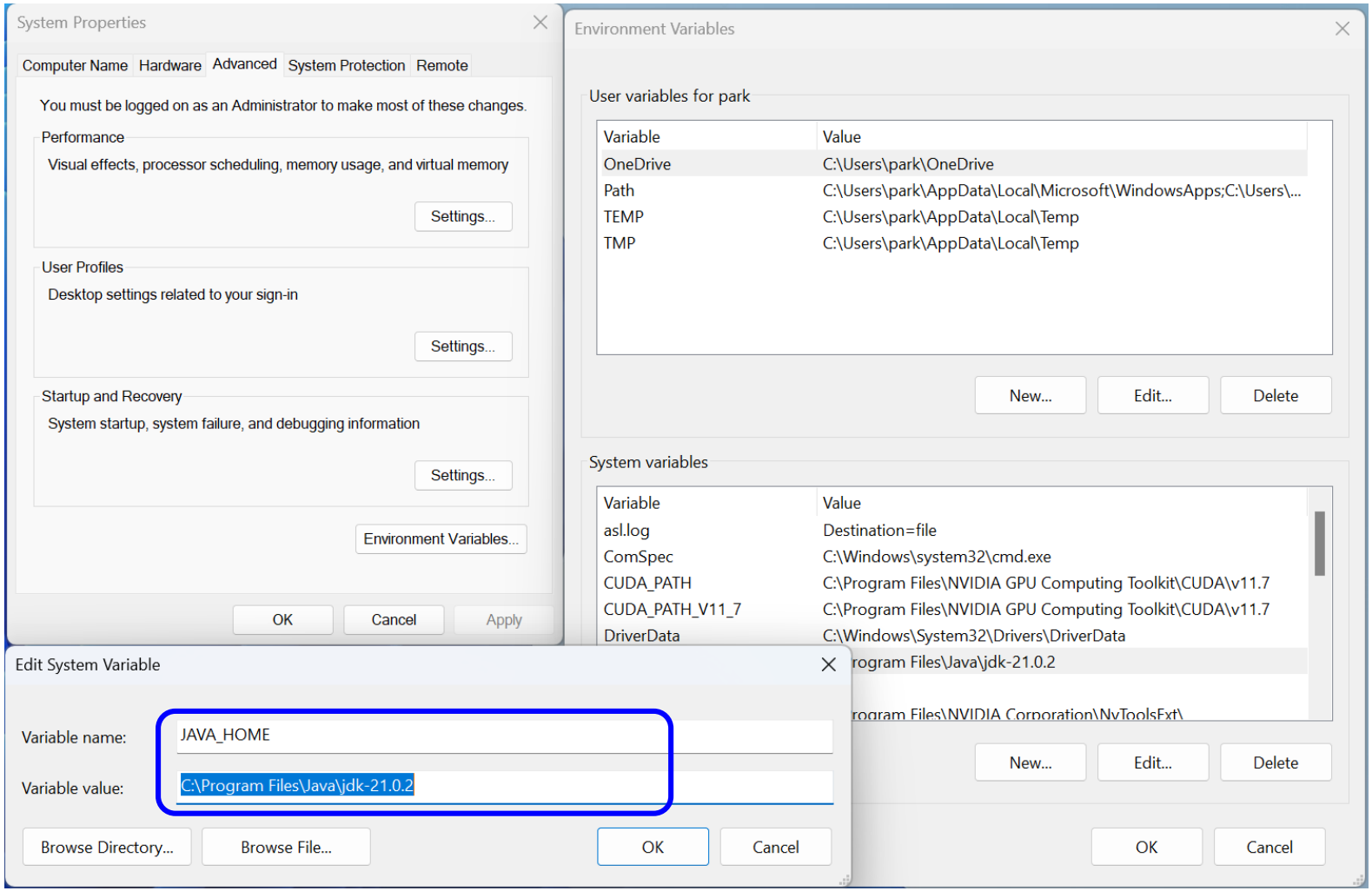
Lab0


Downloads
Local Disk (C:) › Users › park › Downloads ›
New
Sort
View
Extract all
Downloads
Documents
Pictures
Name
Date r
Today
openjdk-21.0.2_windows-x64_bin.zip
2024-
openjdk-21.0.2_windows-x64
park › Downloads › openjdk-21.0.2_windows-x64_bin ›
New
Sort
View
Home
Gallery
OneDrive
Name
Date modified
Today
jdk-21.0.2
2024-02-27 오후 4:48

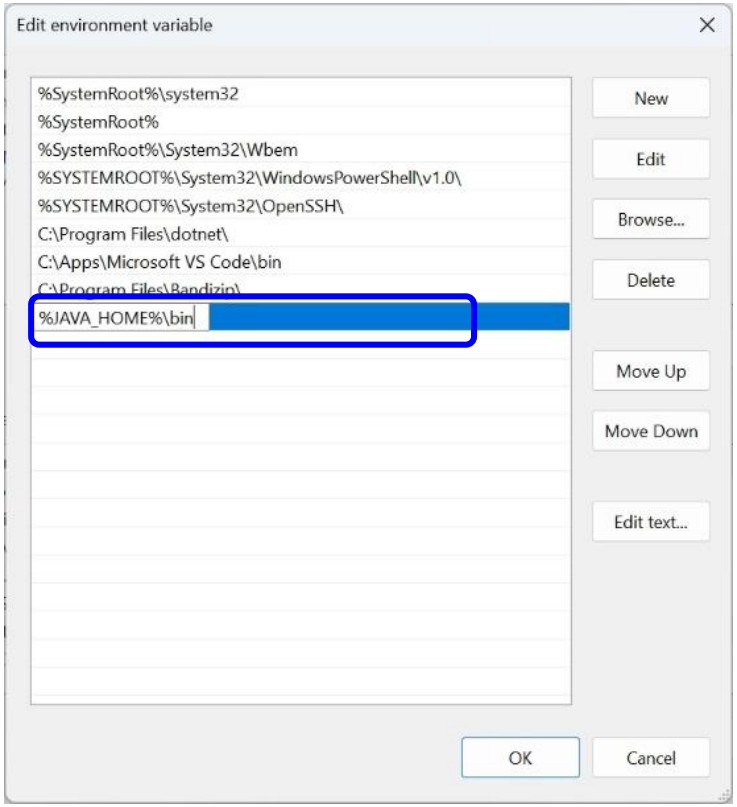
Lab0


jdk-21.0.2
Local Disk (C:) > Program Files > Java > jdk-21.0.2
New
Sort
View
Pictures
Music
Videos
KyoungPark-JavaProgramming2024
dto
courses
KyoungPark-AdvancedJavaProgramr
Name
Date modified
bin 2024-02-27 오후 4:53
conf 2024-02-27 오후 4:53
include 2024-02-27 오후 4:53
jmods 2024-02-27 오후 4:53
legal 2024-02-27 오후 4:53
lib 2024-02-27 오후 4:53
release 2024-02-27 오후 4:48

Lab0

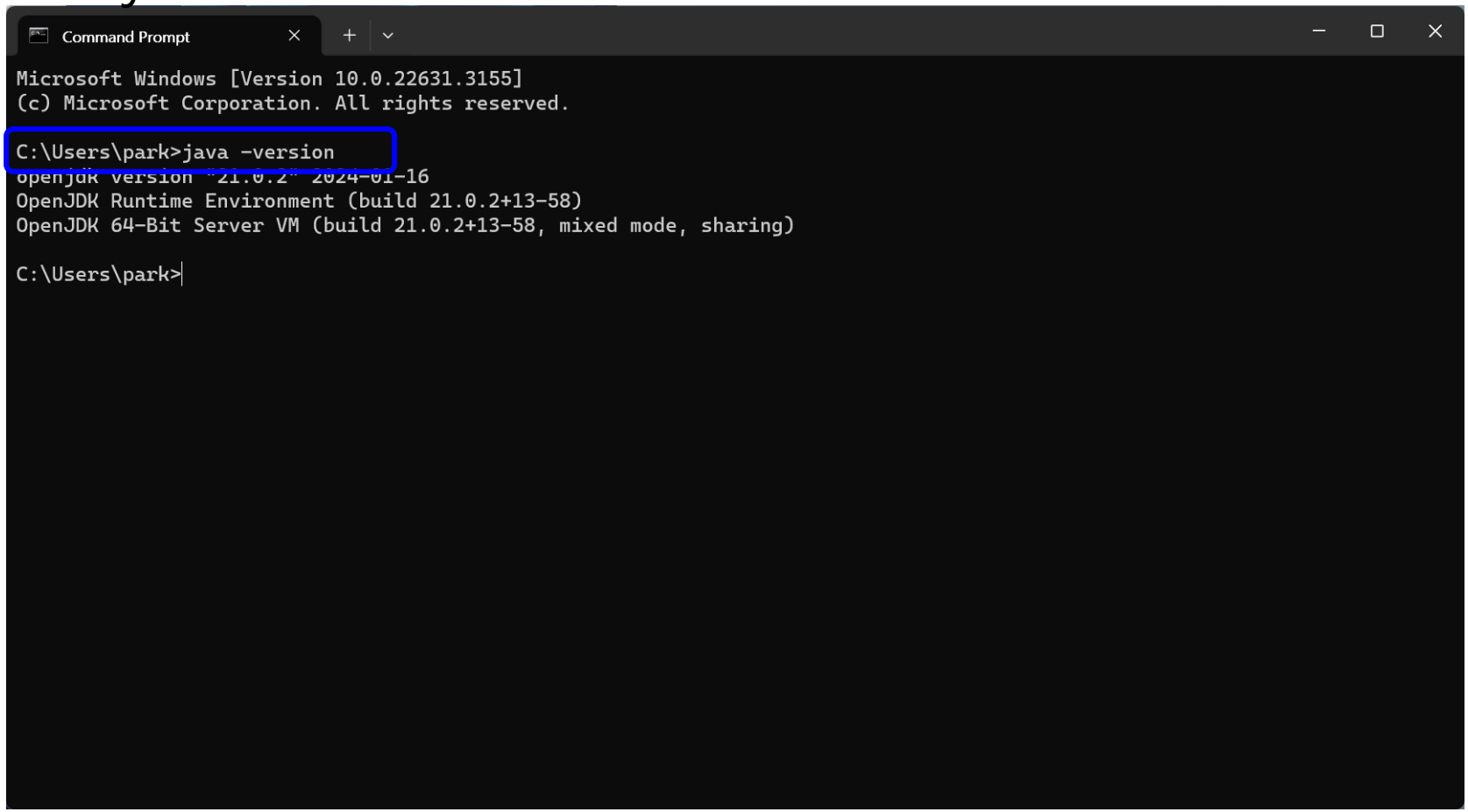

System Properties
Computer Name
Hardware
Advanced
System Protection
Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings...
User Profiles
Desktop settings related to your sign-in
Settings...
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:\Users\park\AppData\Local\Microsoft\WindowsApps;C:\Users\...
TEMP
C:\Users\park\AppData\Local\Temp
TMP
C:\Users\park\AppData\Local\Temp
New...
Edit...
Delete
System variables
Variable
Value
asl.log
Destination=file
ComSpec
C:\Windows\system32\cmd.exe
CUDA_PATH
C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v11.7
CUDA_PATH_V11_7
C:\Program Files\NVIDIA GPU Computing Toolkit\CUDA\v11.7
DriverData
C:\Windows\System32\Drivers\DriverData
rogram Files\Java\jdk-21.0.2
rogram Files\NVIDIA Corporation\NvToolsExt\
New...
Edit...
Delete
OK
Cancel
Edit System Variable
Variable name:
JAVA_HOME
Variable value:
C:\Program Files\Java\jdk-21.0.2
Browse Directory...
Browse File...
OK
Cancel

Lab0


Edit environment variable
%SystemRoot%\system32
%SystemRoot%
%SystemRoot%\System32\Wbem
%SYSTEMROOT%\System32\WindowsPowerShell\v1.0\
%SYSTEMROOT%\System32\OpenSSH\
C:\Program Files\dotnet\
C:\Apps\Microsoft VS Code\bin
%JAVA_HOME%\bin
New
Edit
Browse...
Delete
Move Up
Move Down
Edit text...
OK
Cancel

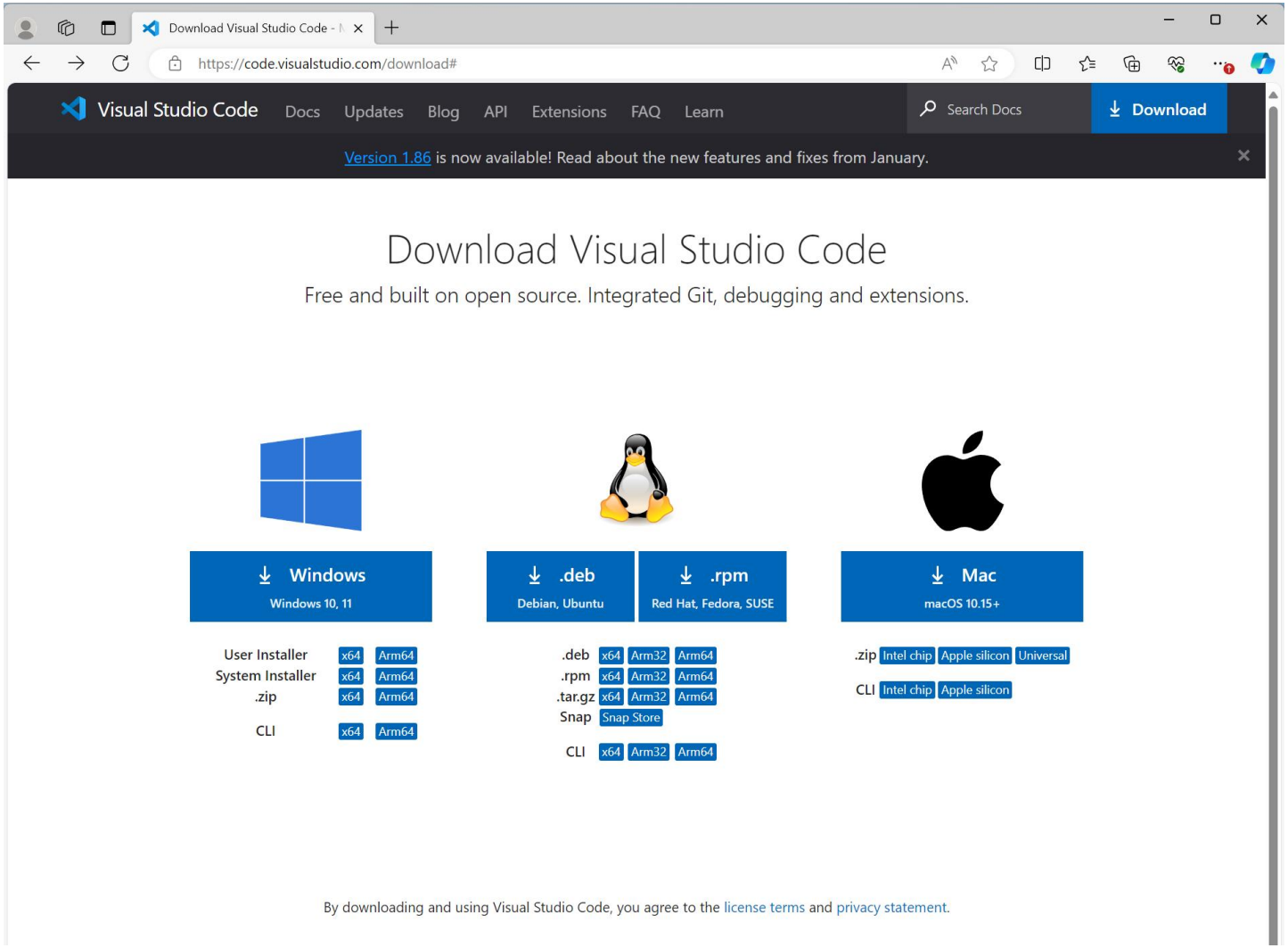
Lab0

- Run java -version



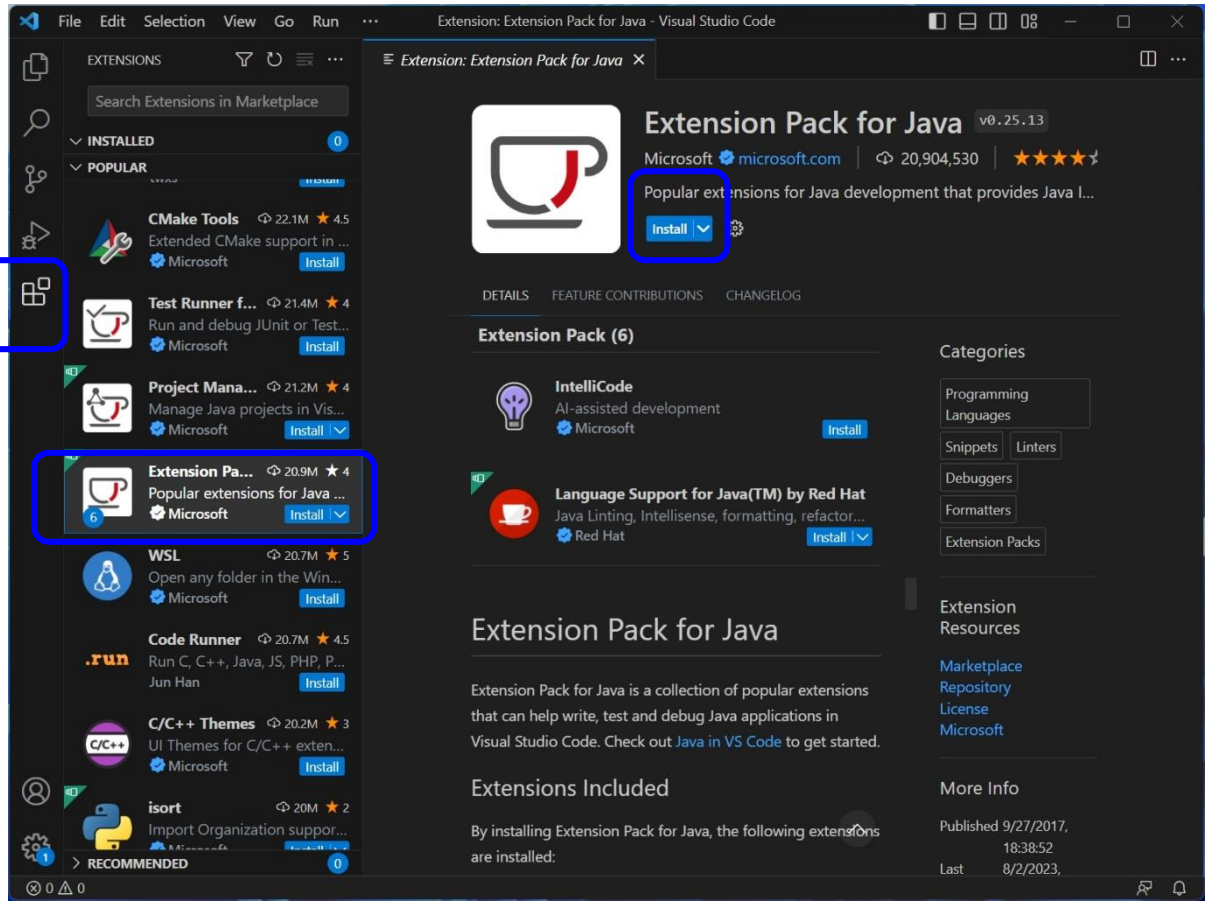
Lab0

- Download Visual Studio Code & Install

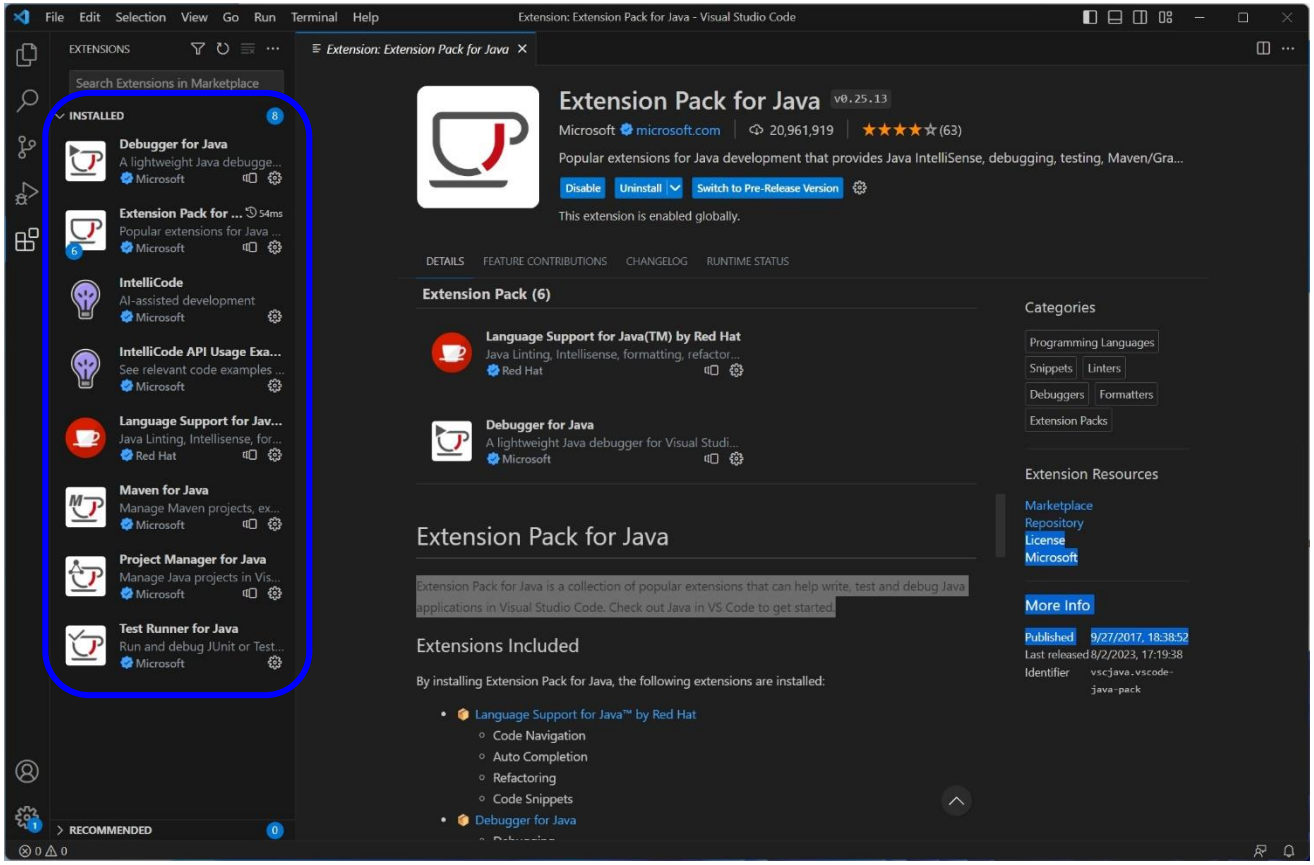


Lab0

- Install “Extension Pack for Java”

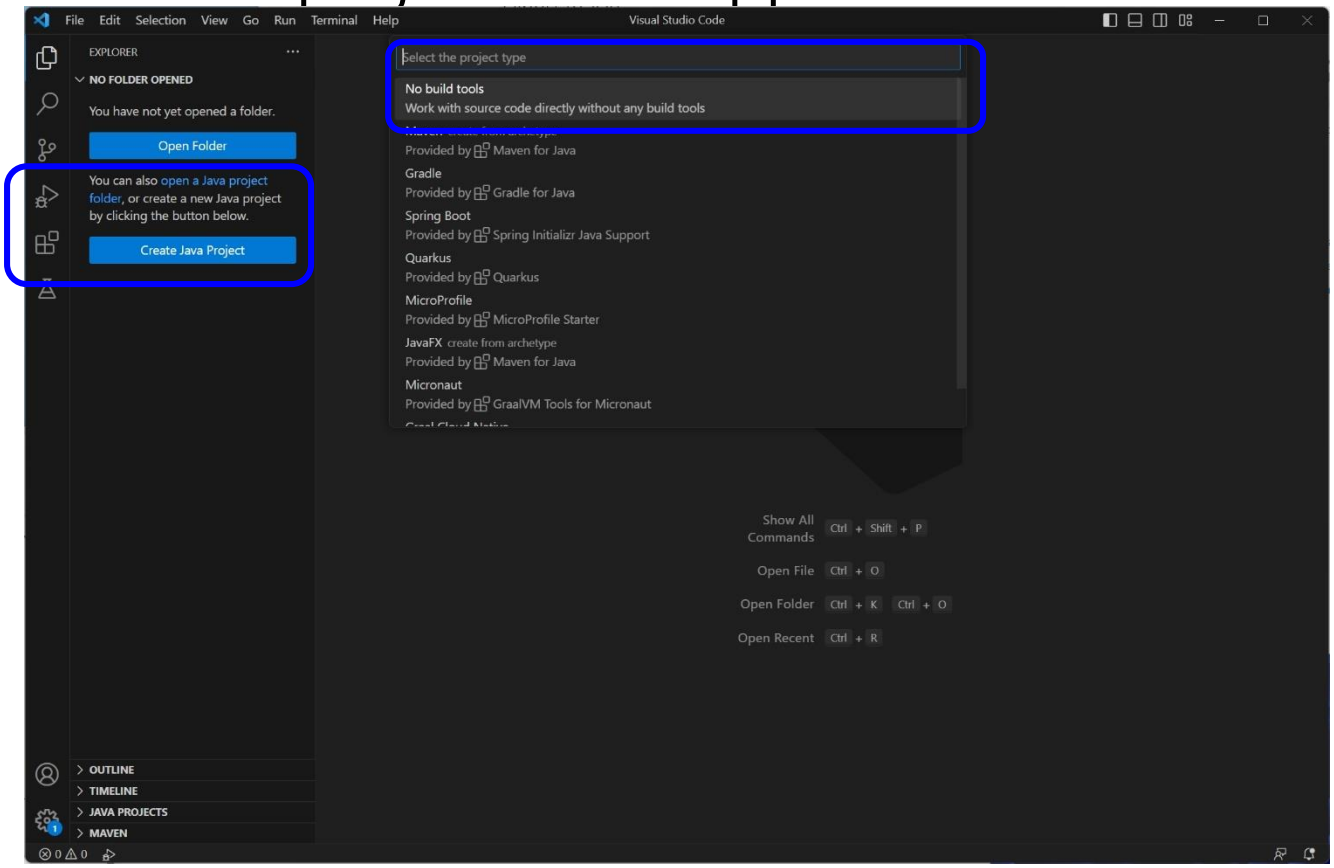


Lab0

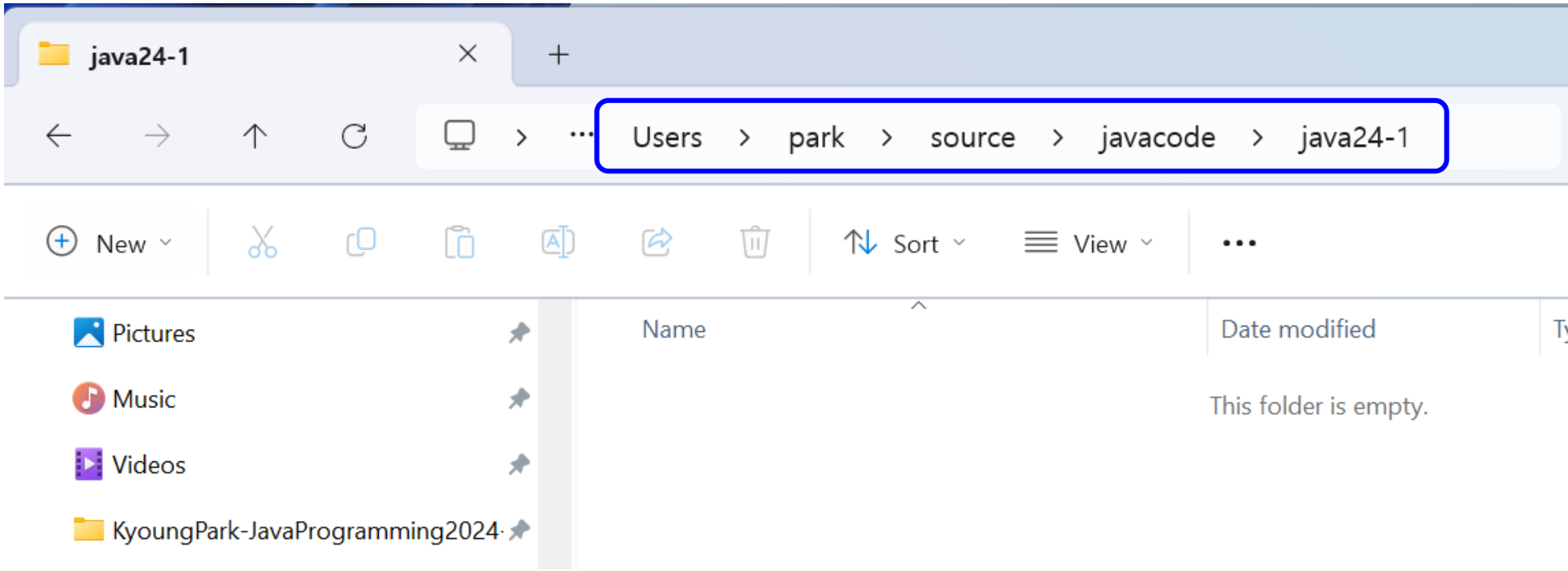

File Edit Selection View Go Run Terminal Help
Extension: Extension Pack for Java - Visual Studio Code
EXTENSIONS
Search Extensions in Marketplace
INSTALLED 8
Debugger for Java
A lightweight Java debugge...
Microsoft
Extension Pack for ... 54ms
Popular extensions for Java ...
Microsoft
IntelliCode
AI-assisted development
Microsoft
IntelliCode API Usage Exa...
See relevant code examples ...
Microsoft
Language Support for Jav...
Java Linting, Intellisense, for...
Red Hat
Maven for Java
Manage Maven projects, ex...
Microsoft
Project Manager for Java
Manage Java projects in Vis...
Microsoft
Test Runner for Java
Run and debug JUnit or Test...
Microsoft
RECOMMENDED 0
Extension: Extension Pack for Java
Extension Pack for Java v0.25.13
Microsoft microsoft.com 20,961,919 (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...
Red Hat
Debugger for Java
A lightweight Java debugger for Visual Studi...
Microsoft
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
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 vscjava.vscode-java-pack

Lab0

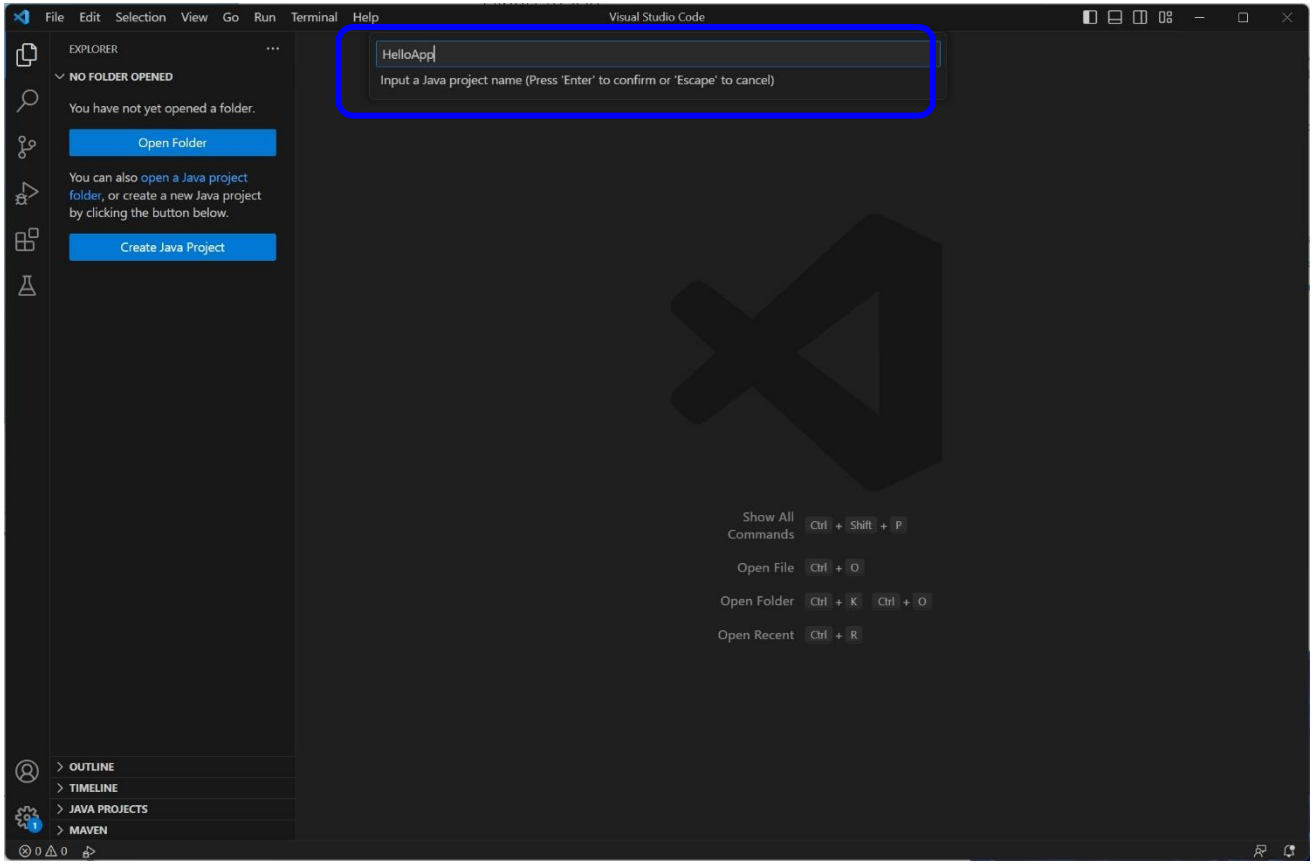
- Create a Java project: HelloApp



Lab0

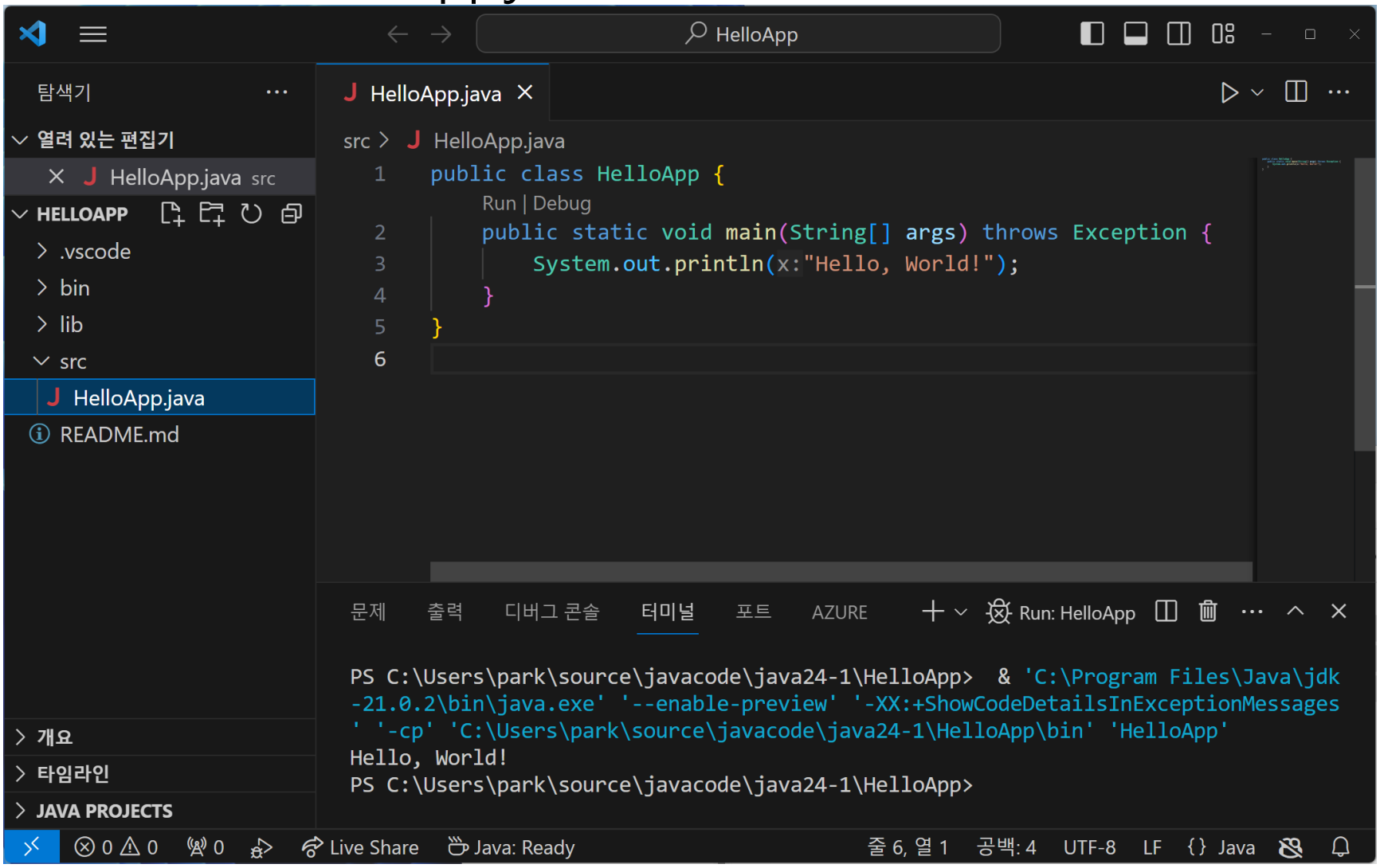

java24-1
Users
park
source
javacode
java24-1
New
Sort
View
Pictures
Music
Videos
KyoungPark-JavaProgramming2024
Name
Date modified
This folder is empty.

Lab0


File Edit Selection View Go Run Terminal Help
Visual Studio Code
EXPLORER
NO FOLDER OPENED
You have not yet opened a folder.
Open Folder
You can also open a Java project folder, or create a new Java project by clicking the button below.
Create Java Project
HelloApp
Input a Java project name (Press 'Enter' to confirm or 'Escape' to cancel)
Show All Commands Ctrl + Shift + P
Open File Ctrl + O
Open Folder Ctrl + K Ctrl + O
Open Recent Ctrl + R
OUTLINE
TIMELINE
JAVA PROJECTS
MAVEN

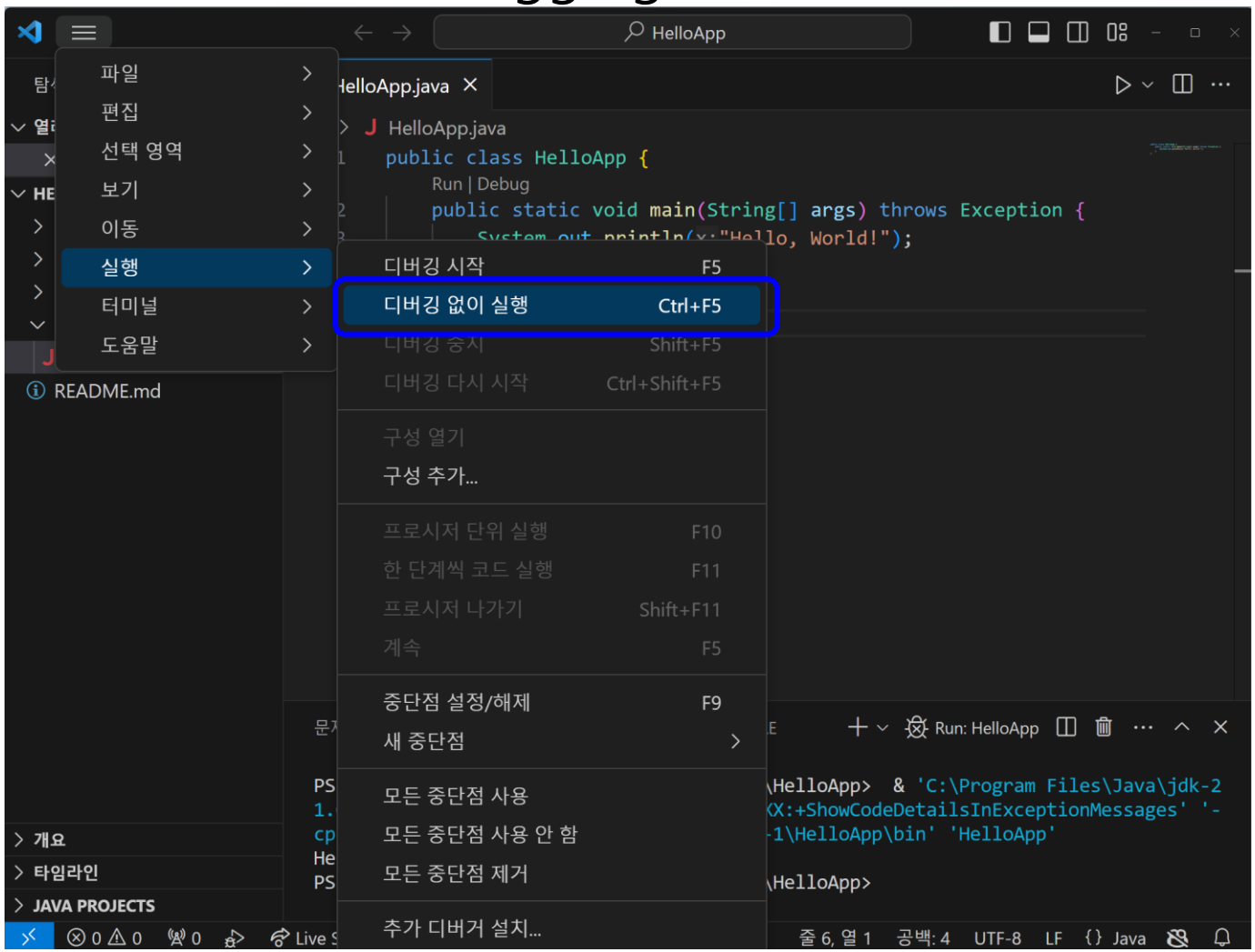
Lab0

- Create HelloApp.java

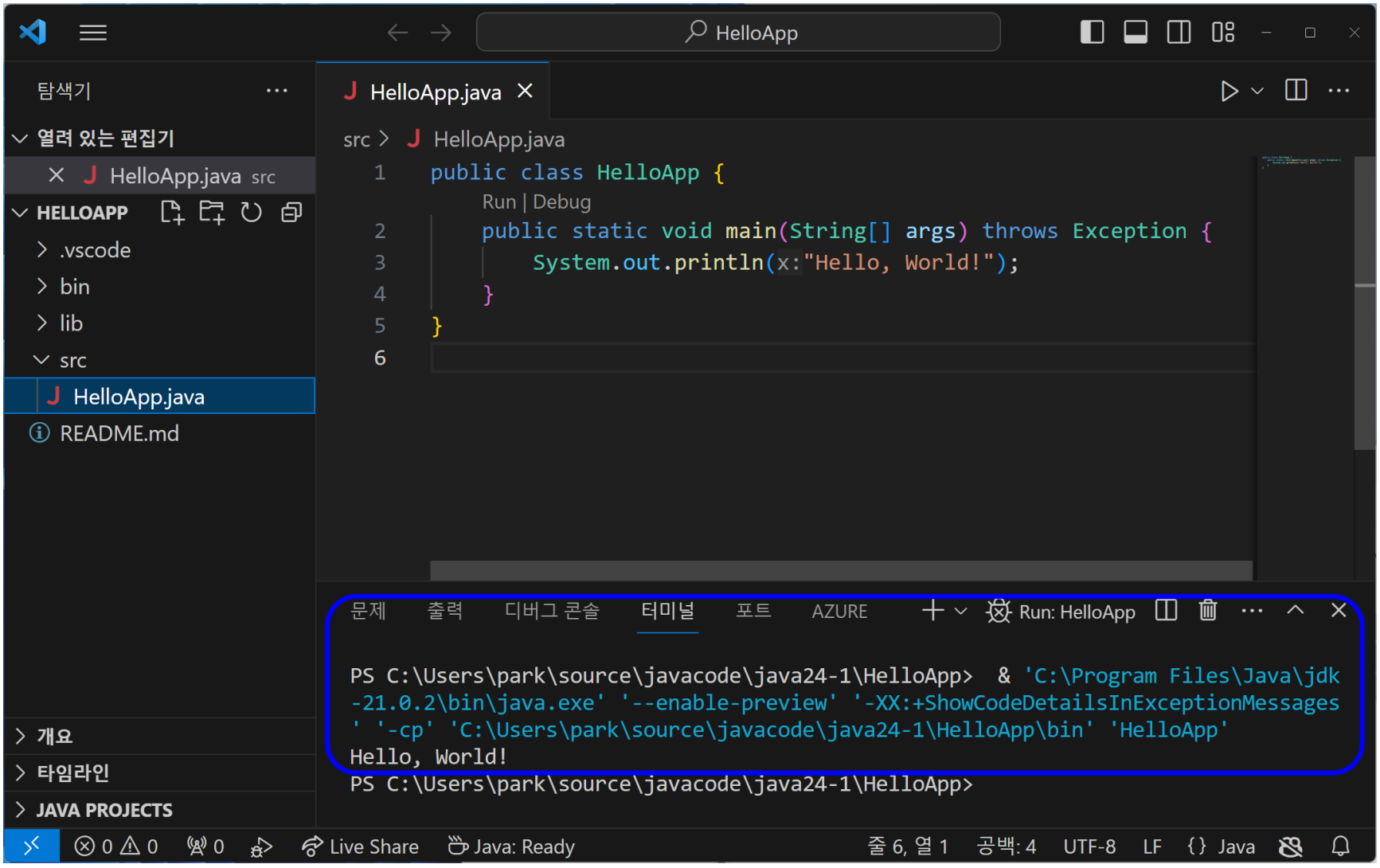


Lab0

- Run Without Debugging

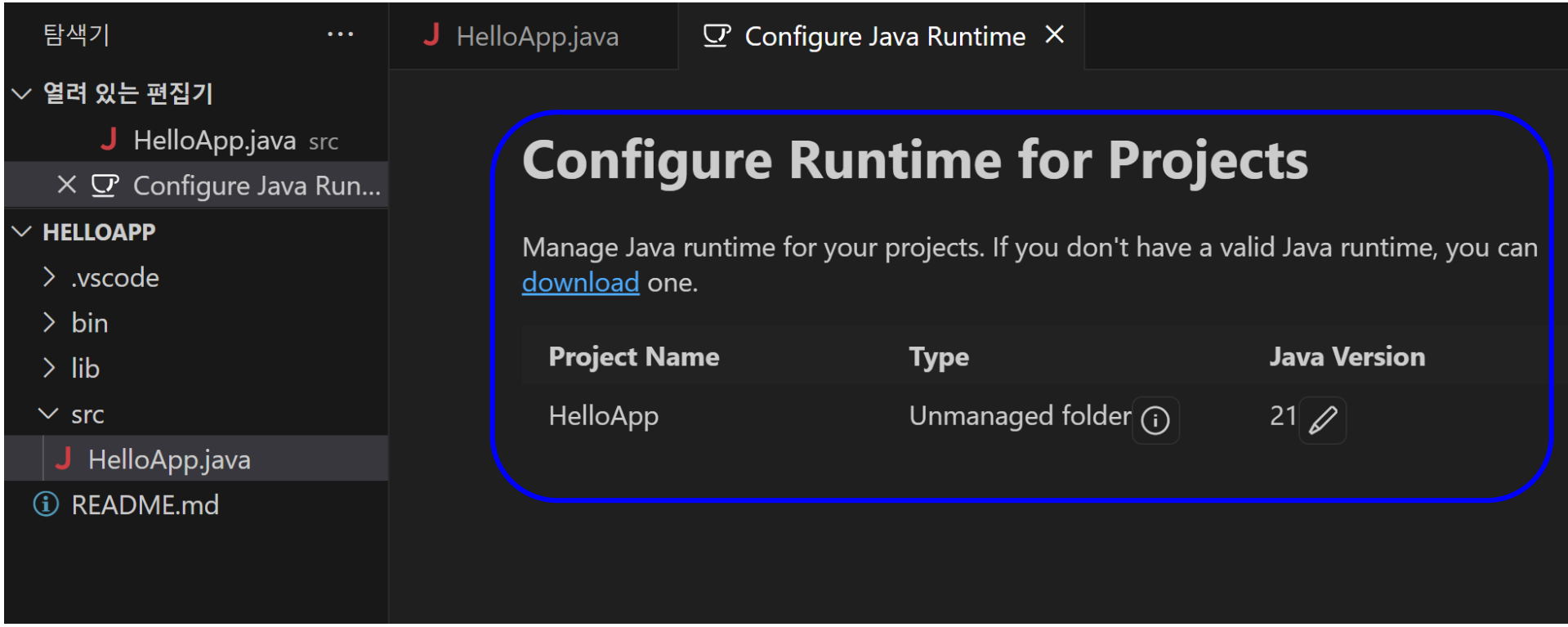


Lab0


HelloApp
탐색기
열려 있는 편집기
HelloApp.java src
HELLOAPP
.vscode
bin
lib
src
HelloApp.java
README.md
개요
타임라인
JAVA PROJECTS
HelloApp.java
src > HelloApp.java
1 public class HelloApp {
Run | Debug
2 public static void main(String[] args) throws Exception {
3 System.out.println(x:"Hello, World!");
4 }
5 }
6
문제
출력
디버그 콘솔
터미널
포트
AZURE
Run: HelloApp
PS C:\Users\park\source\javacode\java24-1\HelloApp> & 'C:\Program Files\Java\jdk-21.0.2\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\park\source\javacode\java24-1\HelloApp\bin' 'HelloApp'
Hello, World!
PS C:\Users\park\source\javacode\java24-1\HelloApp>
Live Share
Java: Ready
줄 6, 열 1
공백: 4
UTF-8
LF
Java

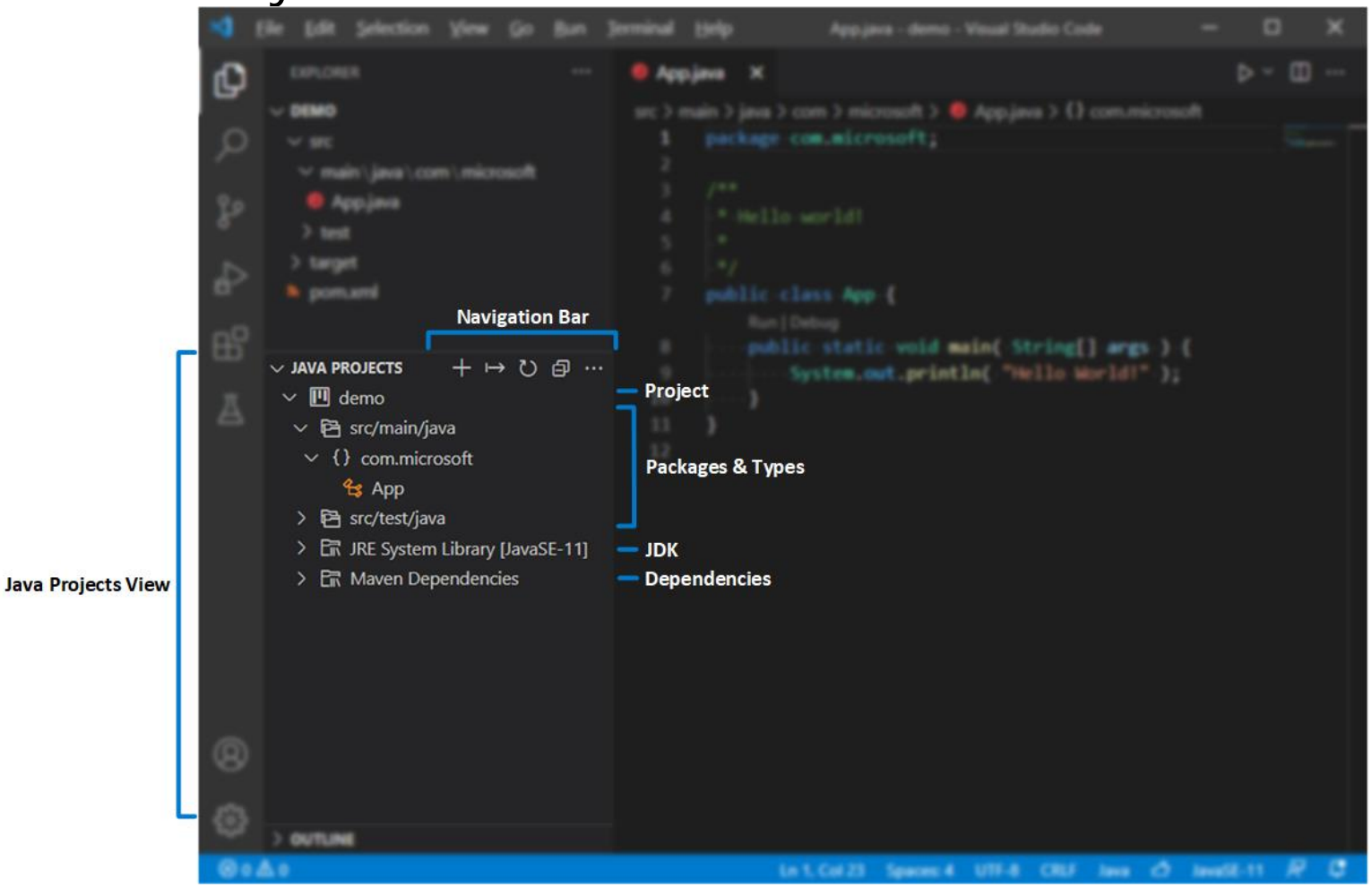
Lab0

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



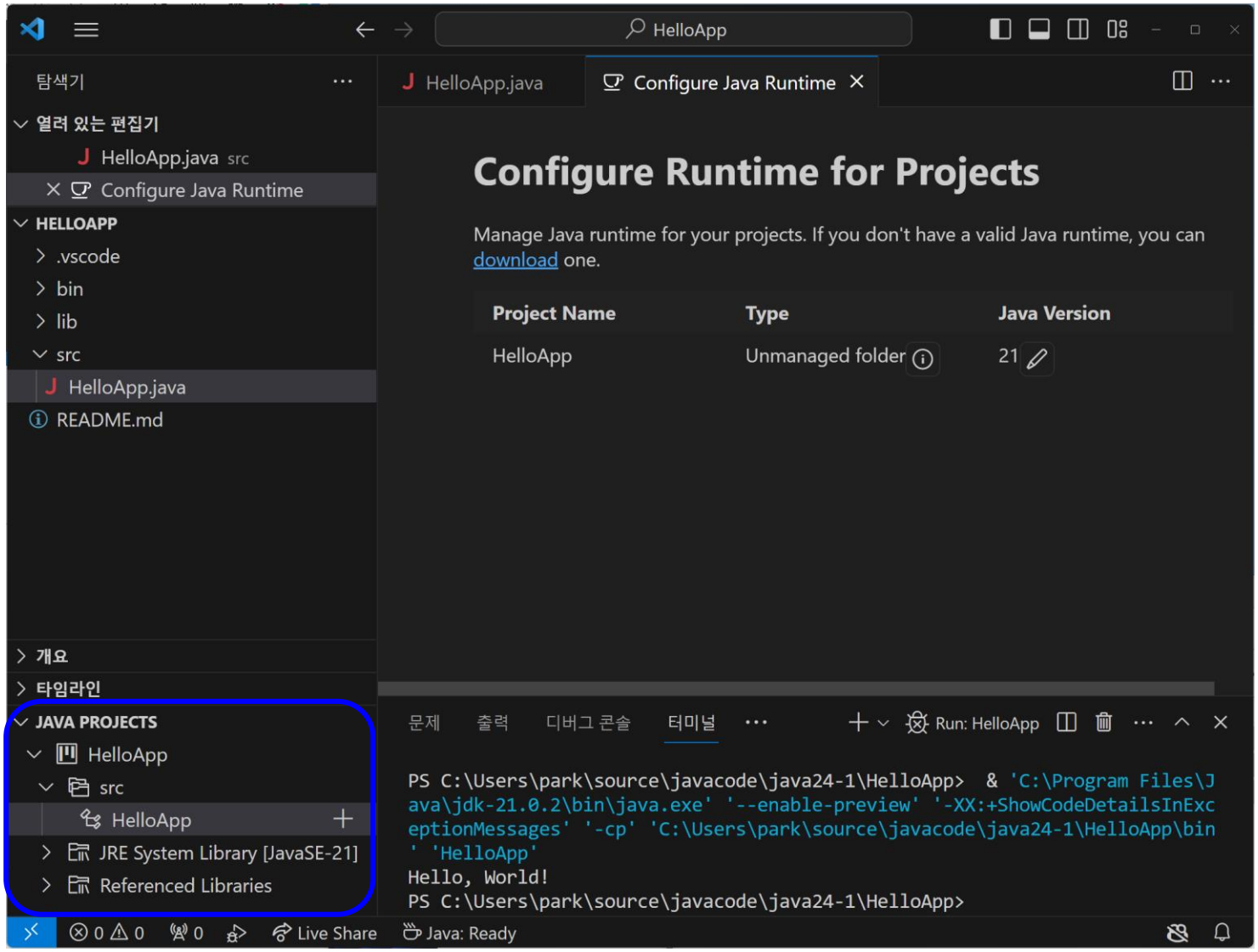
Lab0

- Java Project View



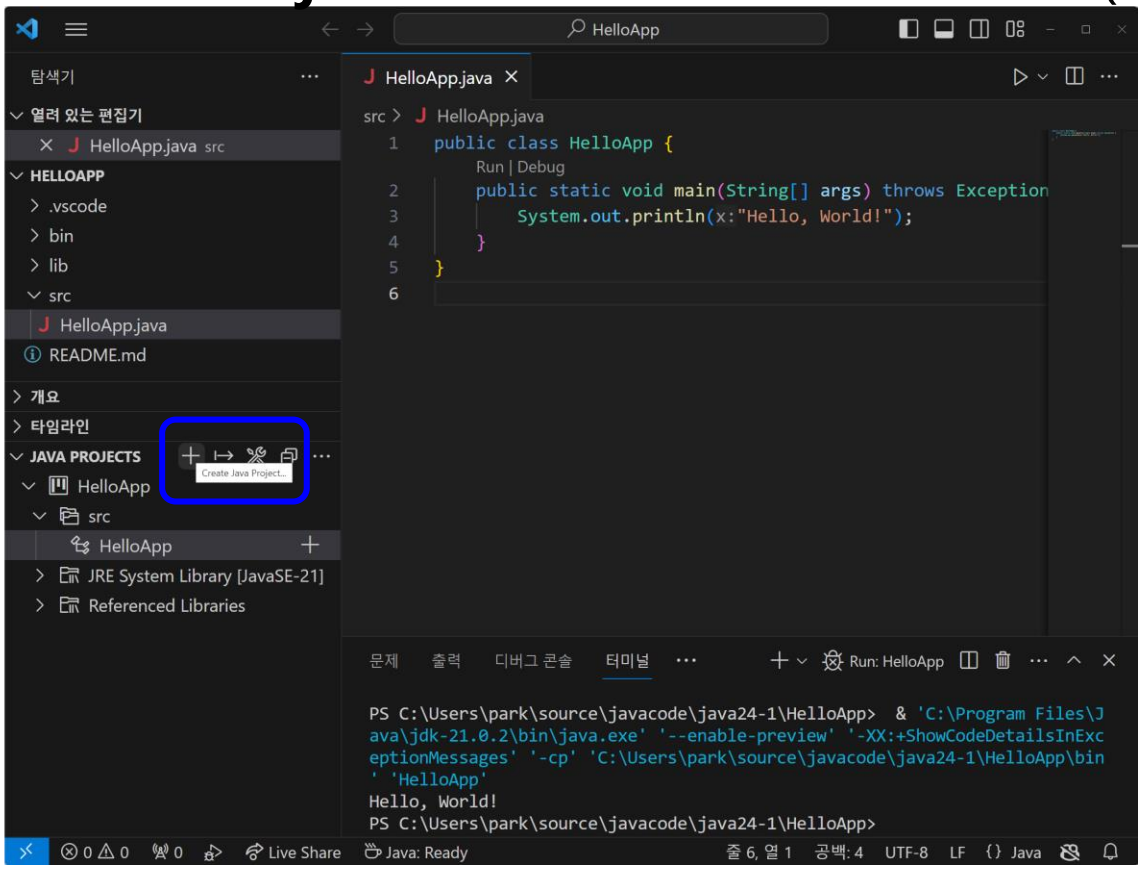
https://code.visualstudio.com/docs/java/java-project#_configure-runtime-for-projects

Lab0


HelloApp
탐색기
HelloApp.java
Configure Java Runtime
열려 있는 편집기
HelloApp.java src
Configure Java Runtime
HELLOAPP
.vscode
bin
lib
src
HelloApp.java
README.md
Configure Runtime for Projects
Manage Java runtime for your projects. If you don't have a valid Java runtime, you can download one.
Project Name
Type
Java Version
HelloApp
Unmanaged folder
21
개요
타임라인
JAVA PROJECTS
HelloApp
src
HelloApp
JRE System Library [JavaSE-21]
Referenced Libraries
문제
출력
디버그 콘솔
터미널
Run: HelloApp
PS C:\Users\park\source\javacode\java24-1\HelloApp> & 'C:\Program Files\Java\jdk-21.0.2\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\park\source\javacode\java24-1\HelloApp\bin' 'HelloApp'
Hello, World!
PS C:\Users\park\source\javacode\java24-1\HelloApp>
Live Share
Java: Ready

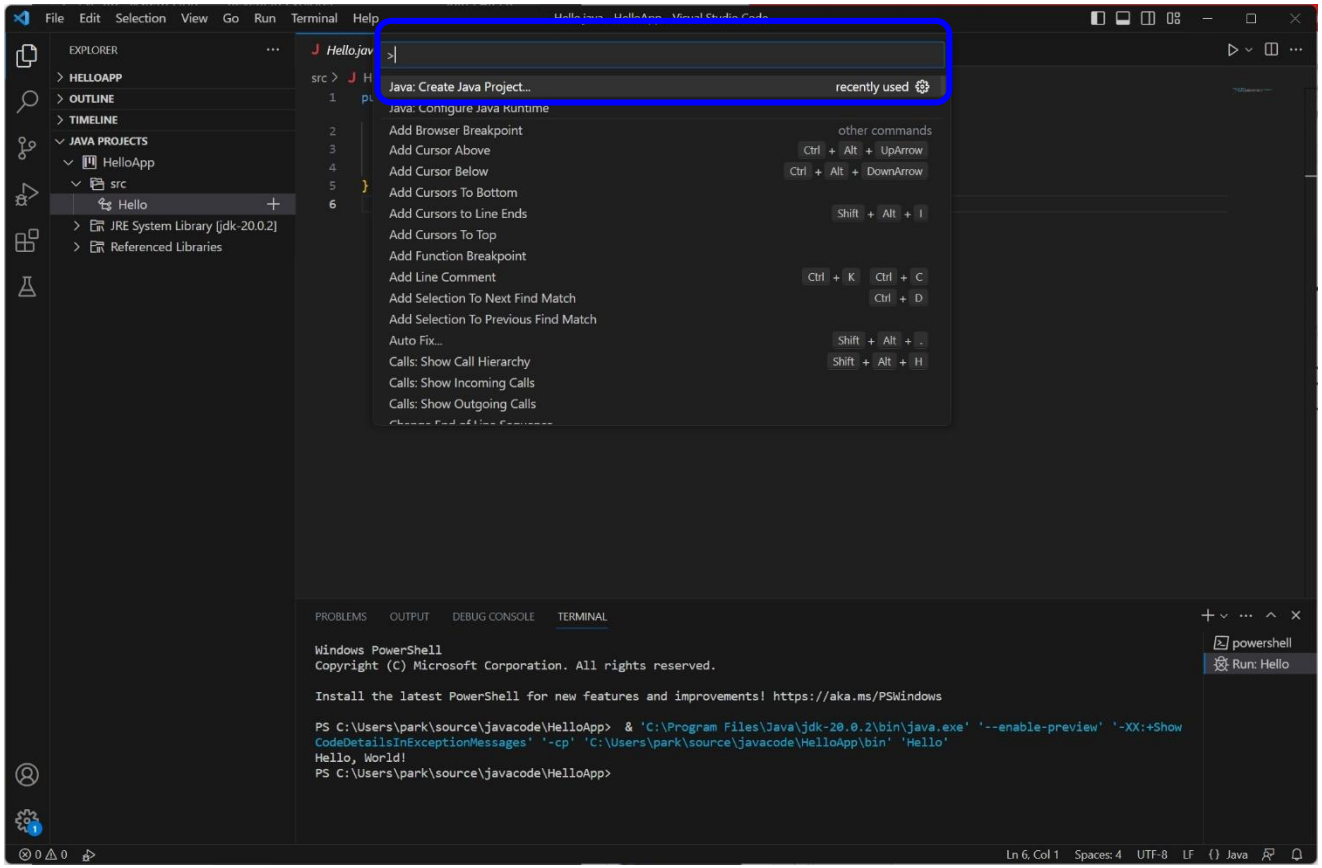
Lab0

- 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).



Lab0

- 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).

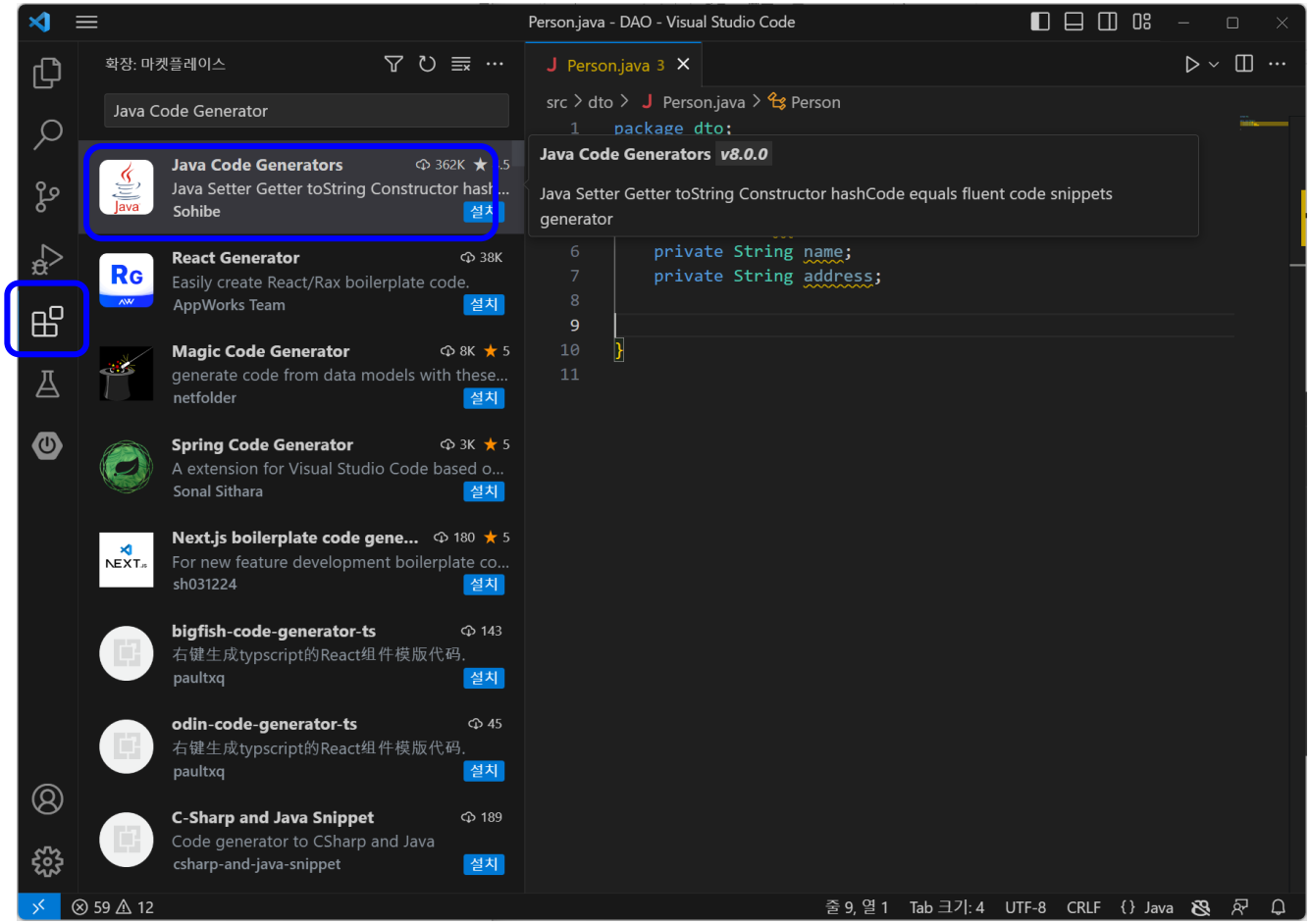


Submit to e-learning

- Submit the Lab0 assignment (including the 1-page report) to e-learning **(due by 3/14)**.
- https://code.visualstudio.com/docs/java/java-project#_configure-runtime-for-projects

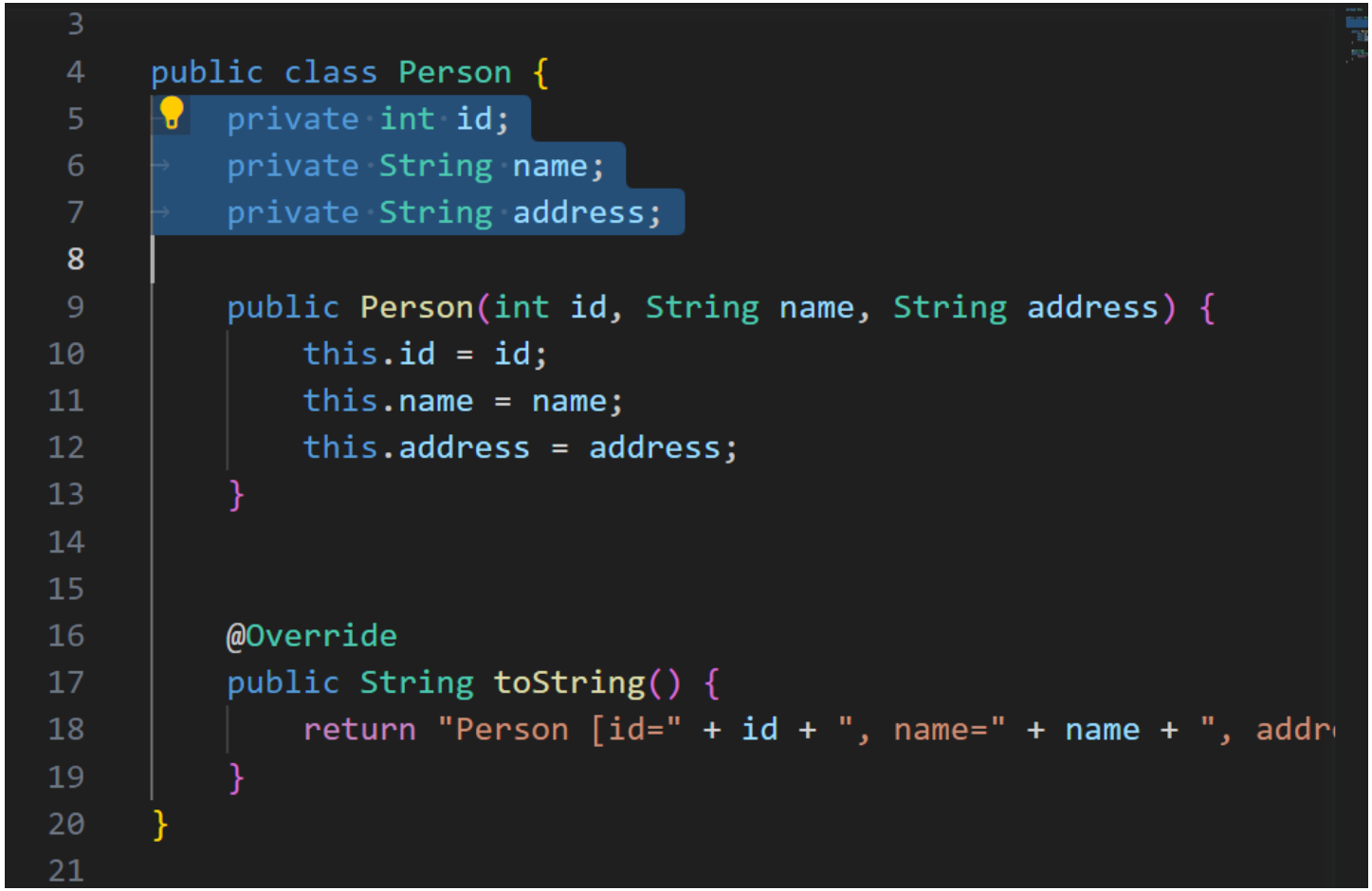
VS Code Generator

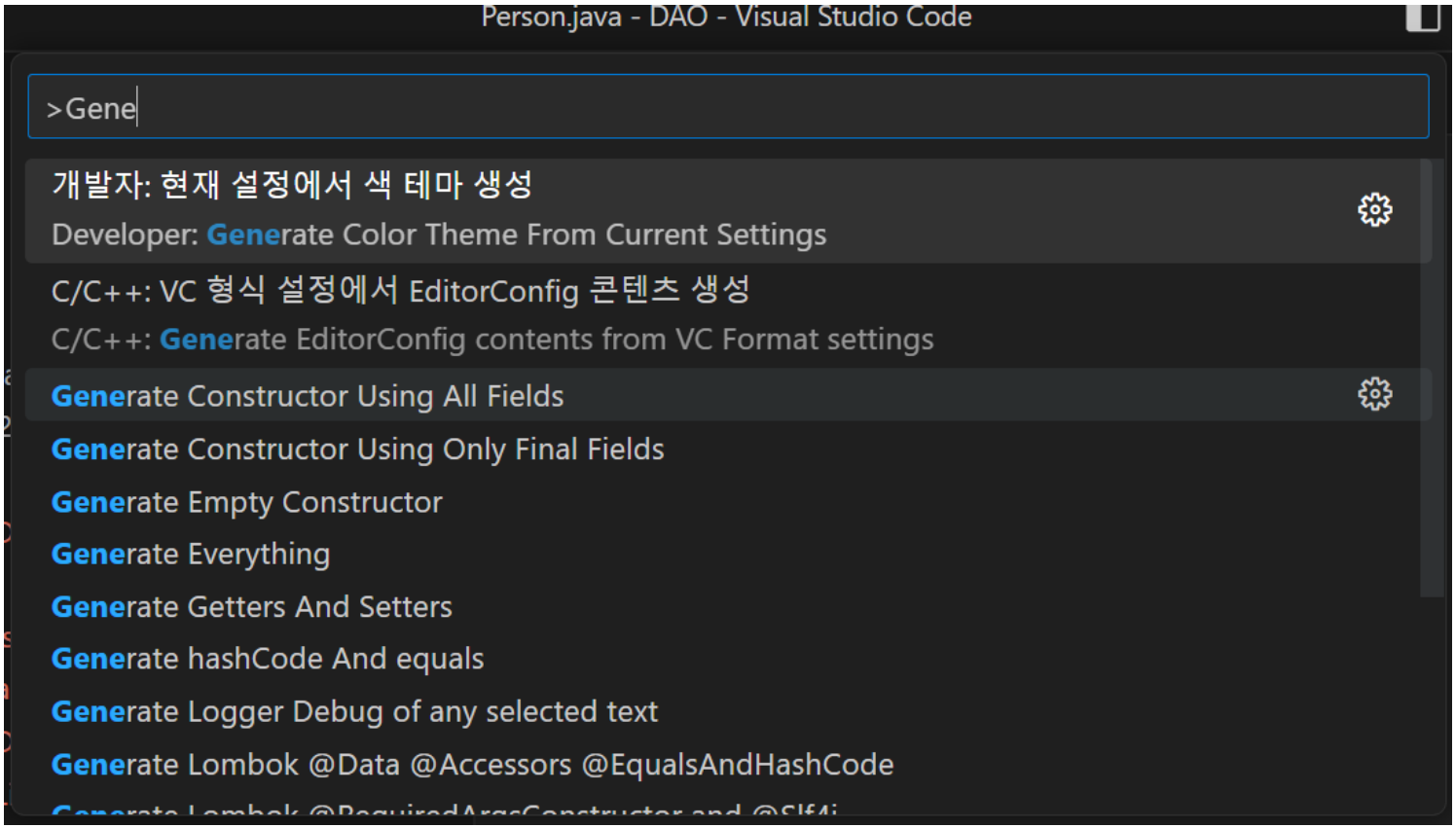
- **Ctrl + Shift + X (Extensions)**
- Install **Getter and Setter Generator**



VS Code Getter/Setter

- Drag the member field to create Getter/Setter



VS Code Getter/Setter

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