Tutorial 0

How to install JAVA

Part 1: JDK17

Reference: https://docs.oracle.com/en/java/javase/17/install/overview-jdk-installation.html

For Mac

- For the following steps of downloading JDK, you could refer to https://java.tutorials24x7.com/blog/how-to-install-java-17-on-mac

For Mac

- Download JDK from the official website (https://www.oracle.com/java/technologies/downloads/#jdk17-mac)

For Mac with M1 chip

For Mac with Intel chip

The JDK includes tools for developing and testing programs written in the Java programming language and running on the Java platform.

Linux **macOS** **Windows**

Product/file description	File size	Download
Arm 64 Compressed Archive	166.88 MB	https://download.oracle.com/java/17/latest/jdk-17_macos-aarch64_bin.tar.gz (sha256)
Arm 64 DMG Installer	168.81 MB	https://download.oracle.com/java/17/latest/jdk-17_macos-aarch64_bin.dmg (sha256)
x64 Compressed Archive	169.42 MB	https://download.oracle.com/java/17/latest/jdk-17_macos-x64_bin.tar.gz (sha256)
x64 DMG Installer	168.81 MB	https://download.oracle.com/java/17/latest/jdk-17_macos-x64_bin.dmg (sha256)

For Mac

- Open the .dmg file and click *Continue* button in Introduction window

Introduction window

Click this Continue button

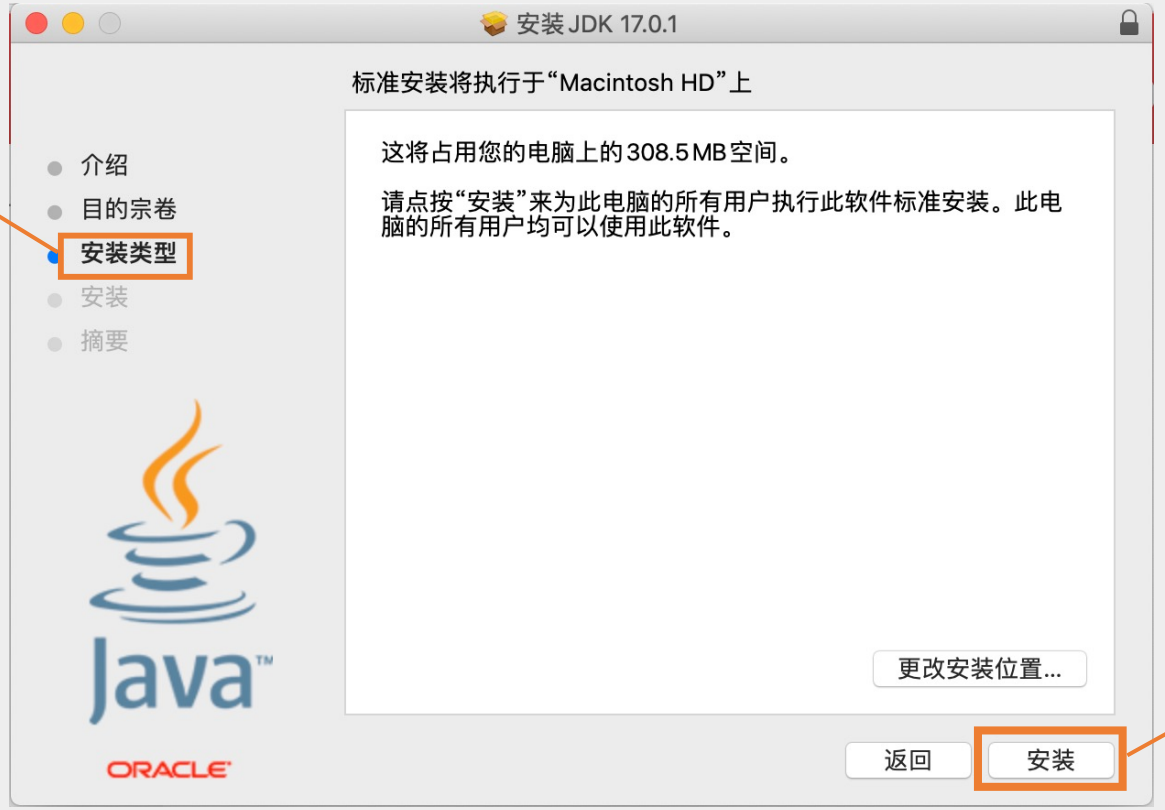
For Mac

- click *Continue* button again

For Mac

- click *Install* button in *Installation Type* window

Installation Type window



Click this Continue button

For Mac

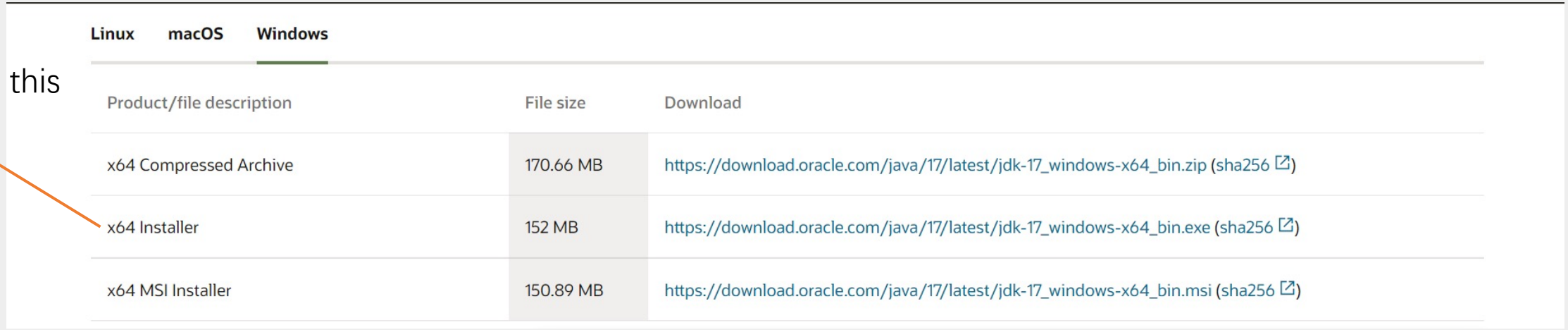
- Check the version again and we find the version it is already be 17.0.1.

```
(base) wengziteng@localhost ~ % java -version
java version "17.0.1" 2021-10-19 LTS
Java(TM) SE Runtime Environment (build 17.0.1+12-LTS-39)
Java HotSpot(TM) 64-Bit Server VM (build 17.0.1+12-LTS-39, mixed mode, sharing)
```

For Windows

- Download JDK from the official website (https://www.oracle.com/java/technologies/downloads/#jdk17-windows)

Download this item



Linux macOS Windows

Product/file description	File size	Download
x64 Compressed Archive	170.66 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.zip (sha256)
x64 Installer	152 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.exe (sha256)
x64 MSI Installer	150.89 MB	https://download.oracle.com/java/17/latest/jdk-17_windows-x64_bin.msi (sha256)

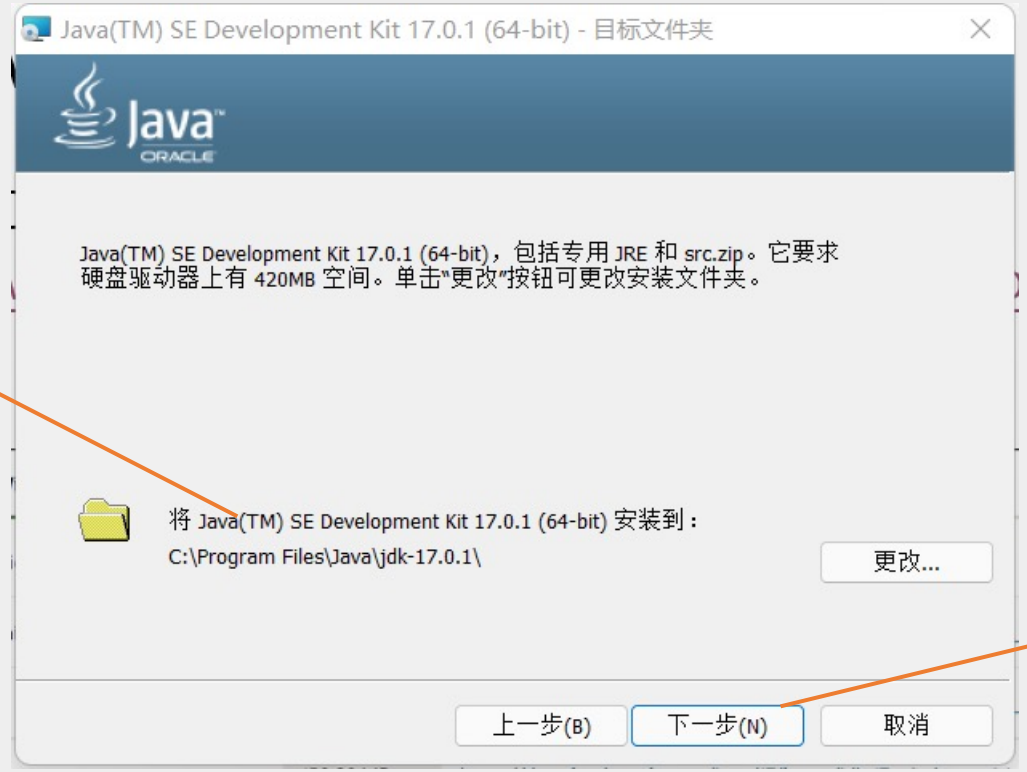
For Windows

- Open .exe file and you will see the window like the figure below. And click on the next step.

For Windows

- Click on the *next* button

Remember this file path



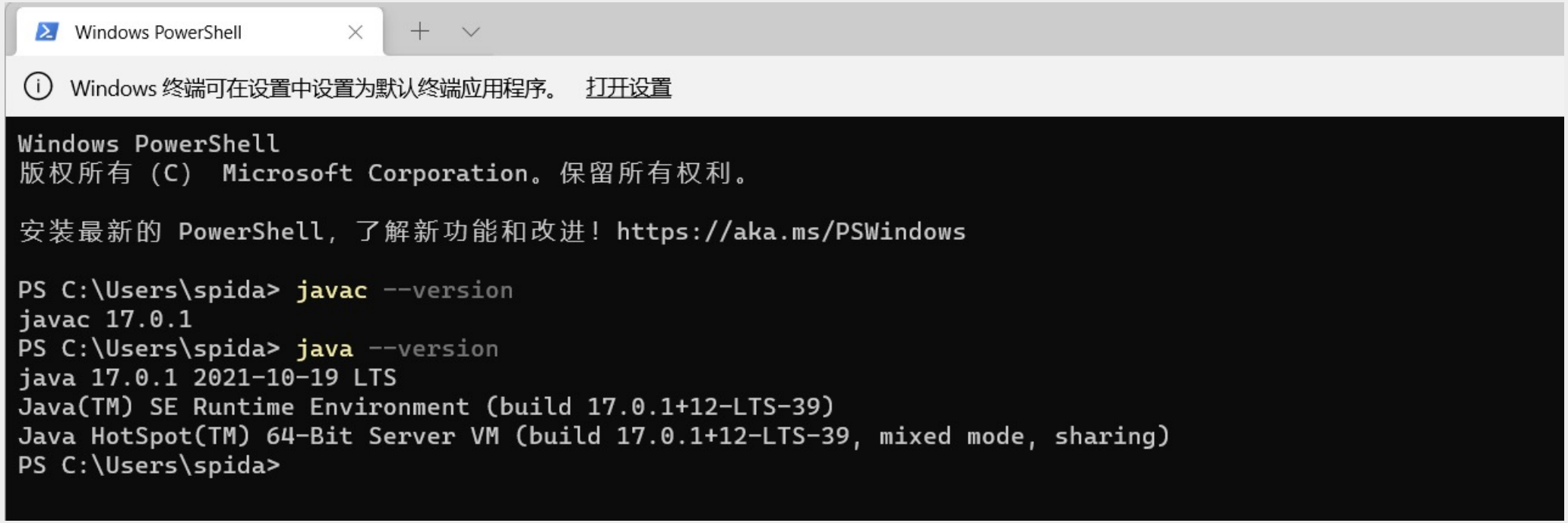
Click on this button

For Windows

- When you finish the above steps, you can see the window below.

For Windows

- You can open Windows Terminal and enter `java –version` and `javac –version` to test whether you install successfully.
- If the result you display is the same as the figure below, the installation is successful.



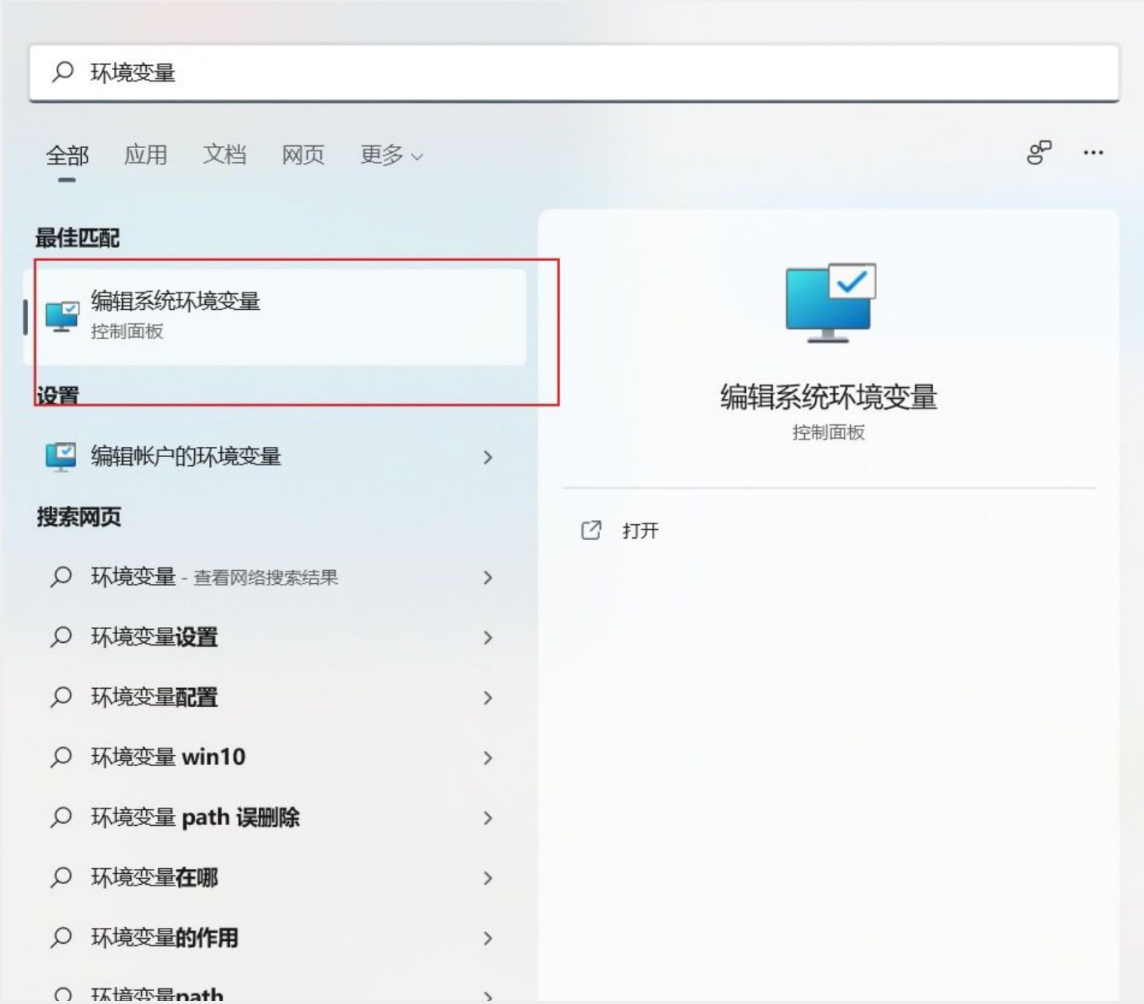
For Windows

- If you could not install jdk successfully, you need to set up the environment variable manually to follow the steps below.

ref: https://www.bilibili.com/read/cv13490158

For Windows

Select Control Panel and then System.

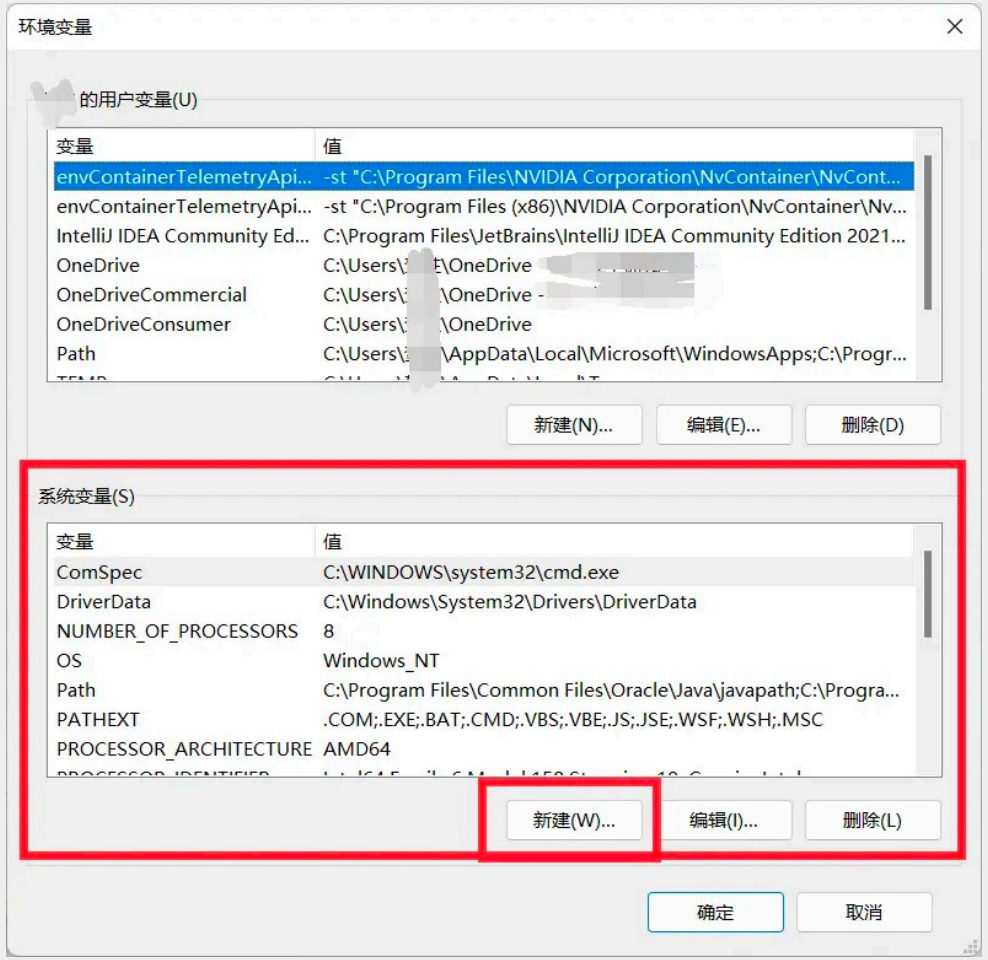


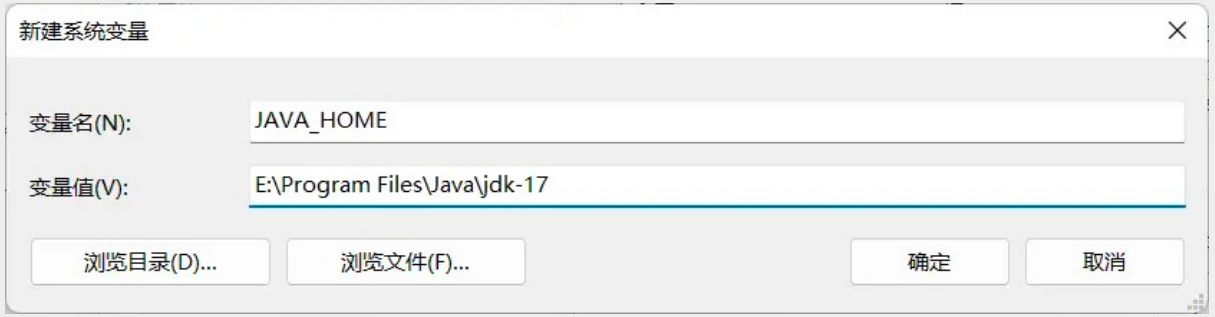
For Windows

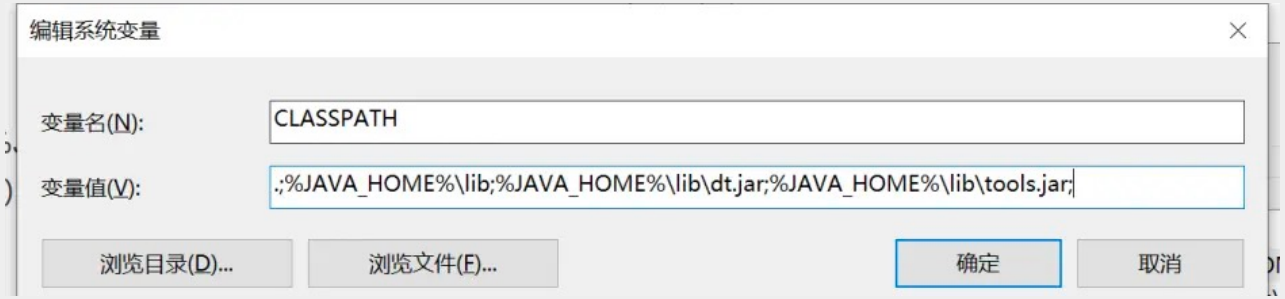
Click Advanced and then Environment Variables.

For Windows

Click on the new button to create variables: JAVA_HOME (the file path of JDK in slide 12 in your computer) and ClASSPATH　(;%JAVA_HOME%\lib\dt.jar;%JAVA_HOME%\lib\tools.jar).

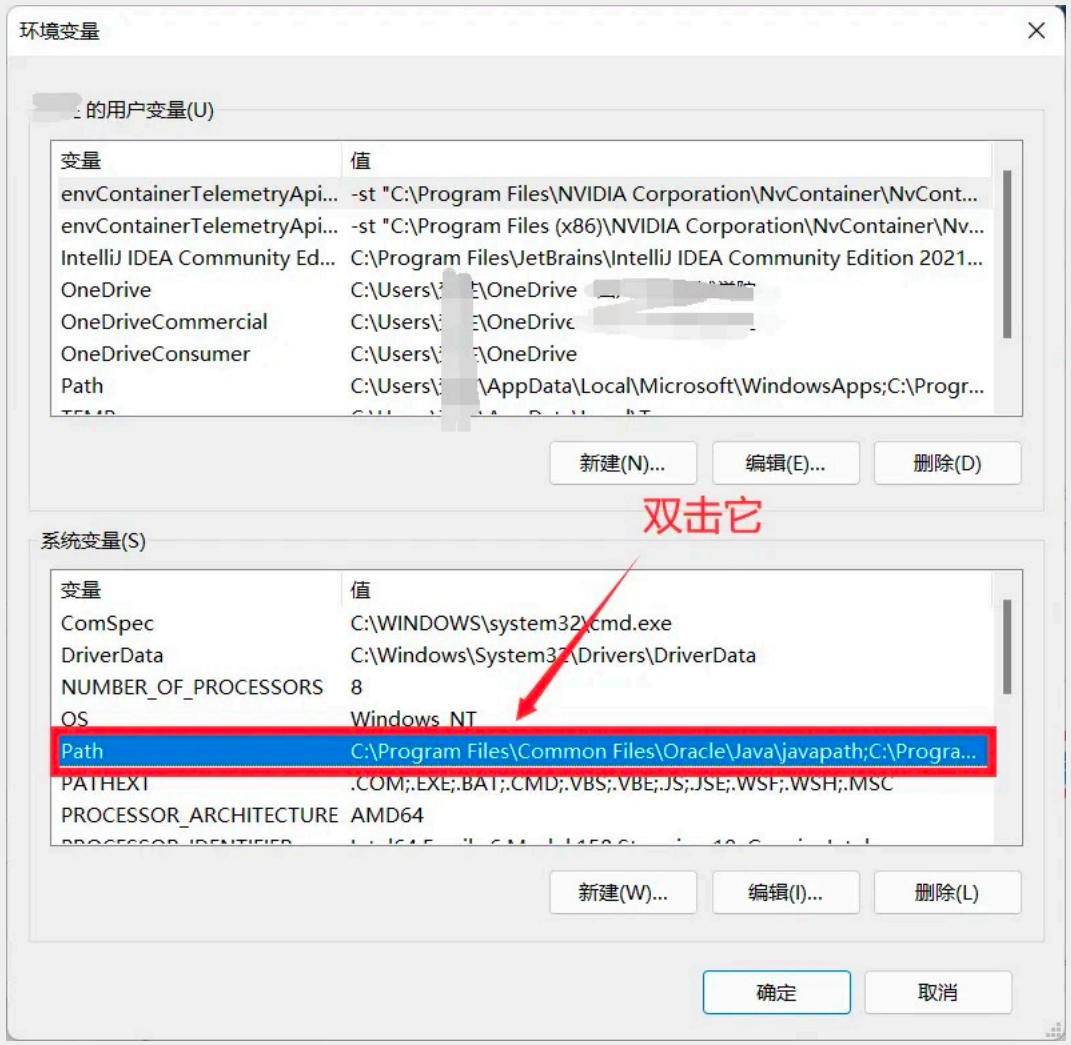


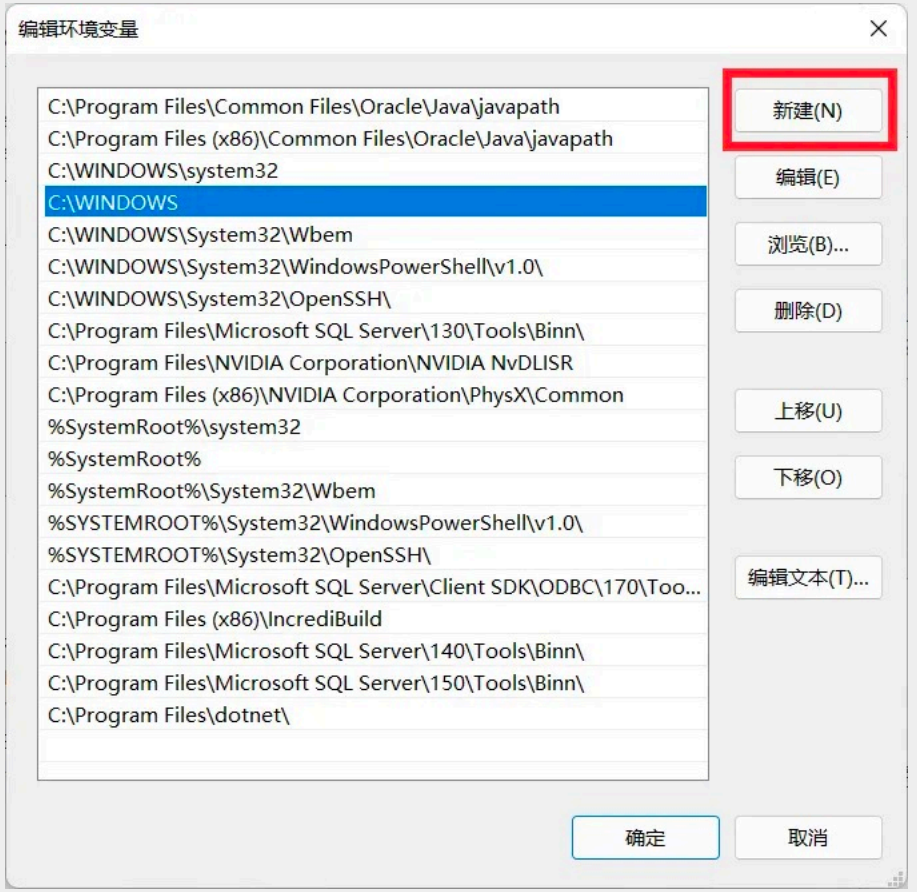




For Windows

Double click on the variable Path, and then click on the new button and enter %JAVA_HOME%\jre\bin to the highlighted line.





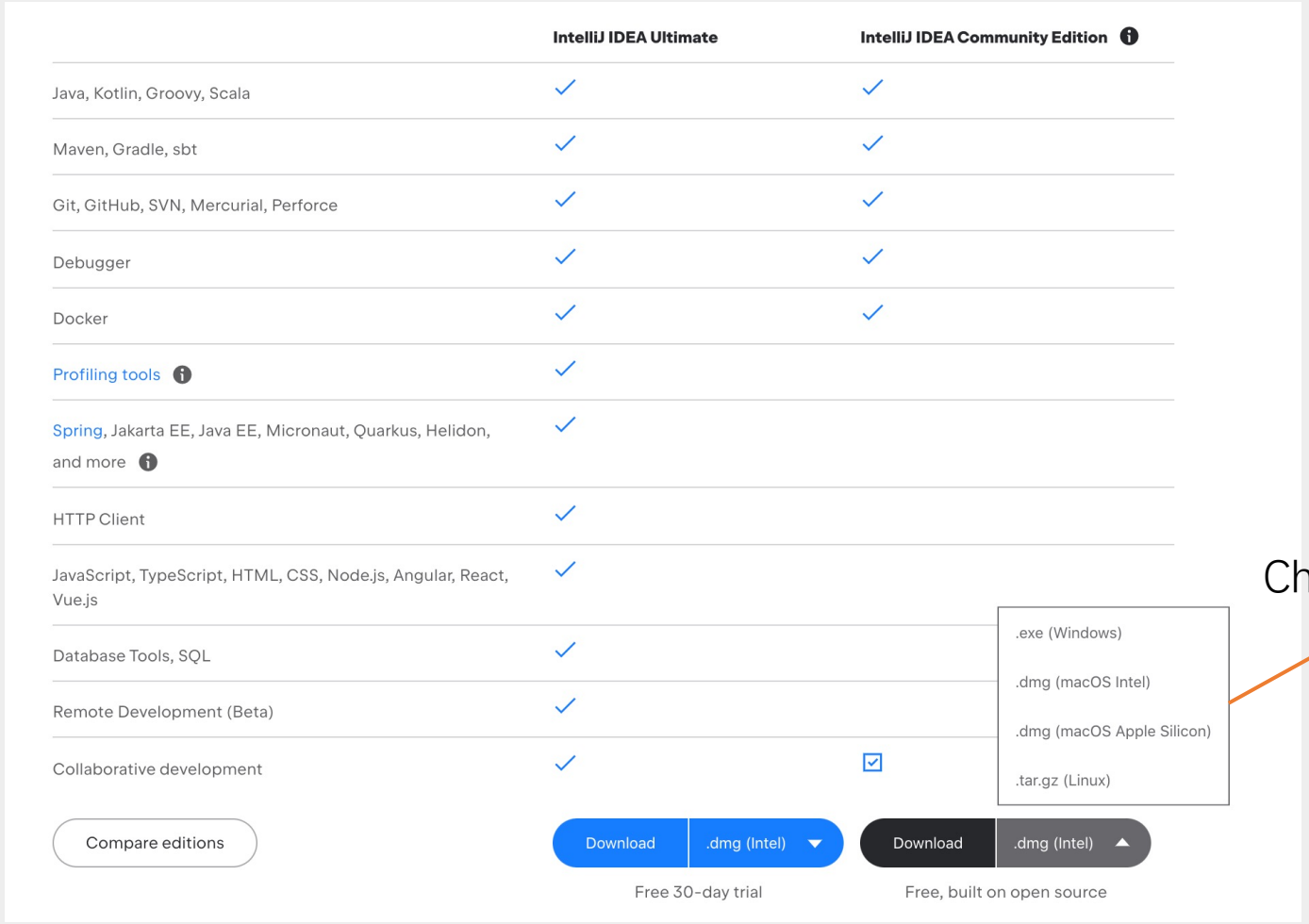
Part 2: IDE

In this section, we provide two types of IDEs, IDEA and Vscode

Part 2*: Run Java in IDEA

Download IntelliJ

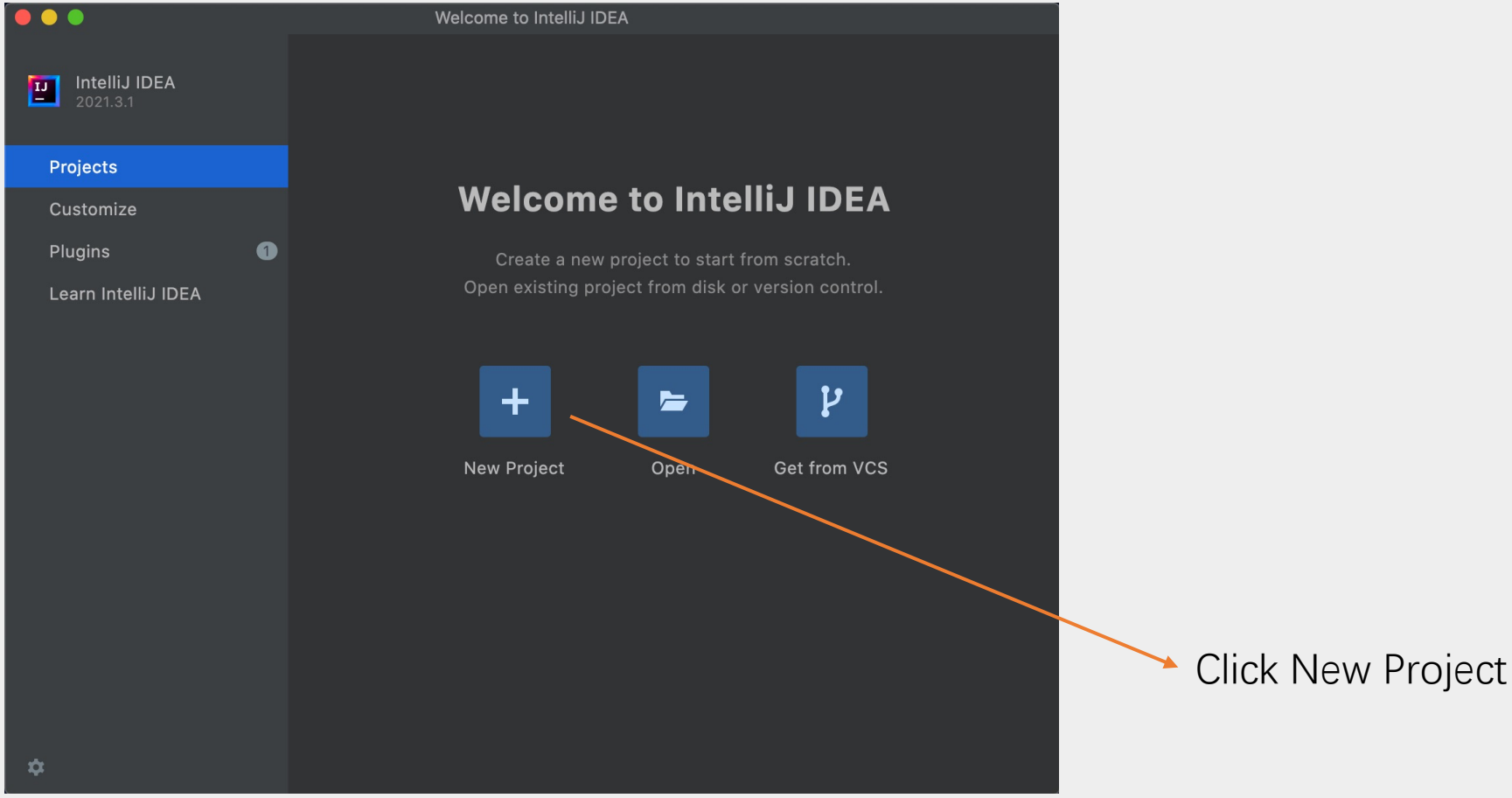
- Downloading IntelliJ Community Edition from https://www.jetbrains.com/idea/



Choose your version

Open IntelliJ

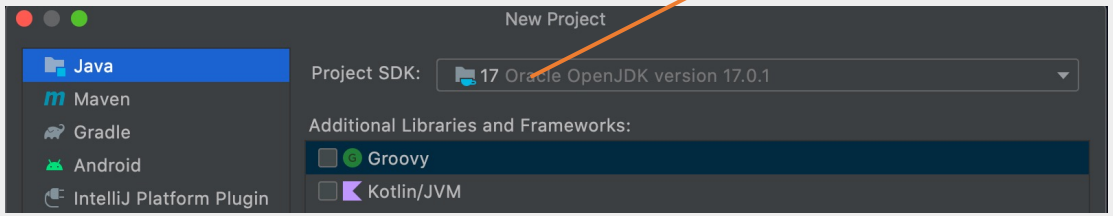
Open IntelliJ and click New Project Button



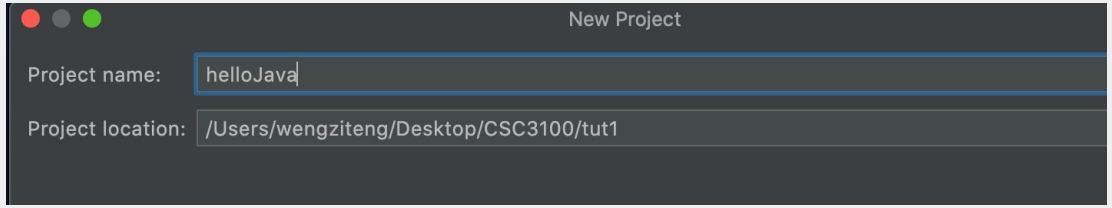
Create Project

Old UI

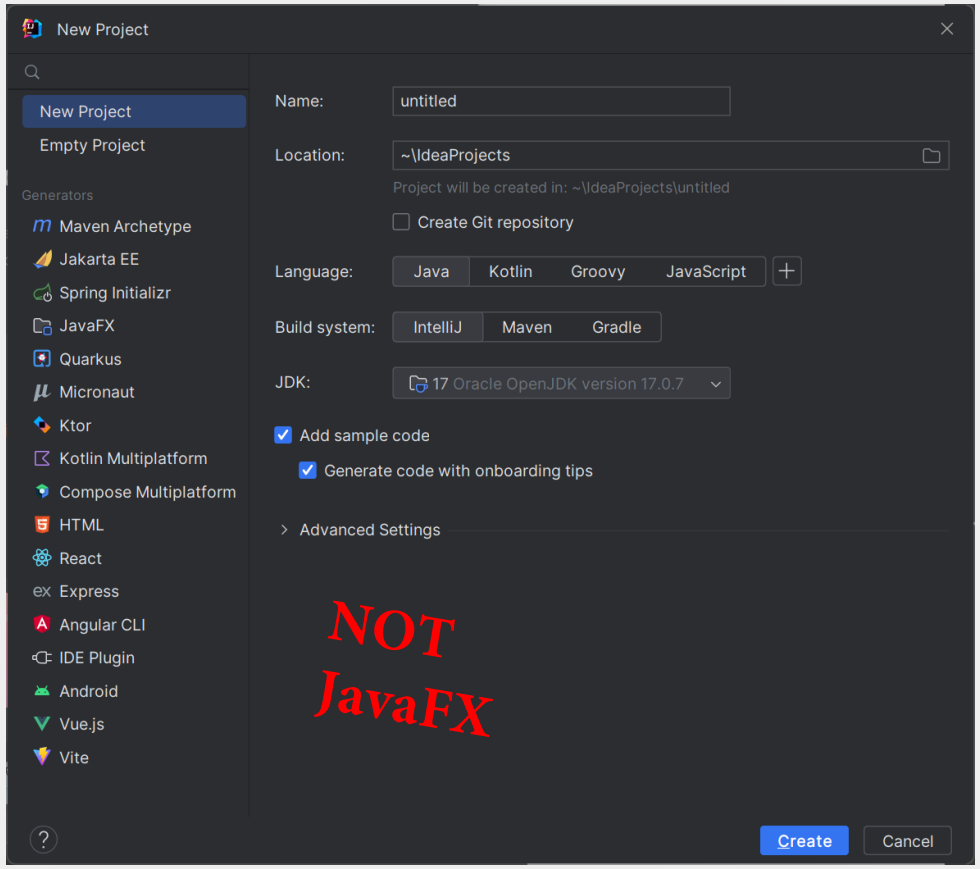
You could see that you have already downloaded JDK



Click Next Button twice. Then, type your project name and choose the project location. Finally, click Finish.



New UI

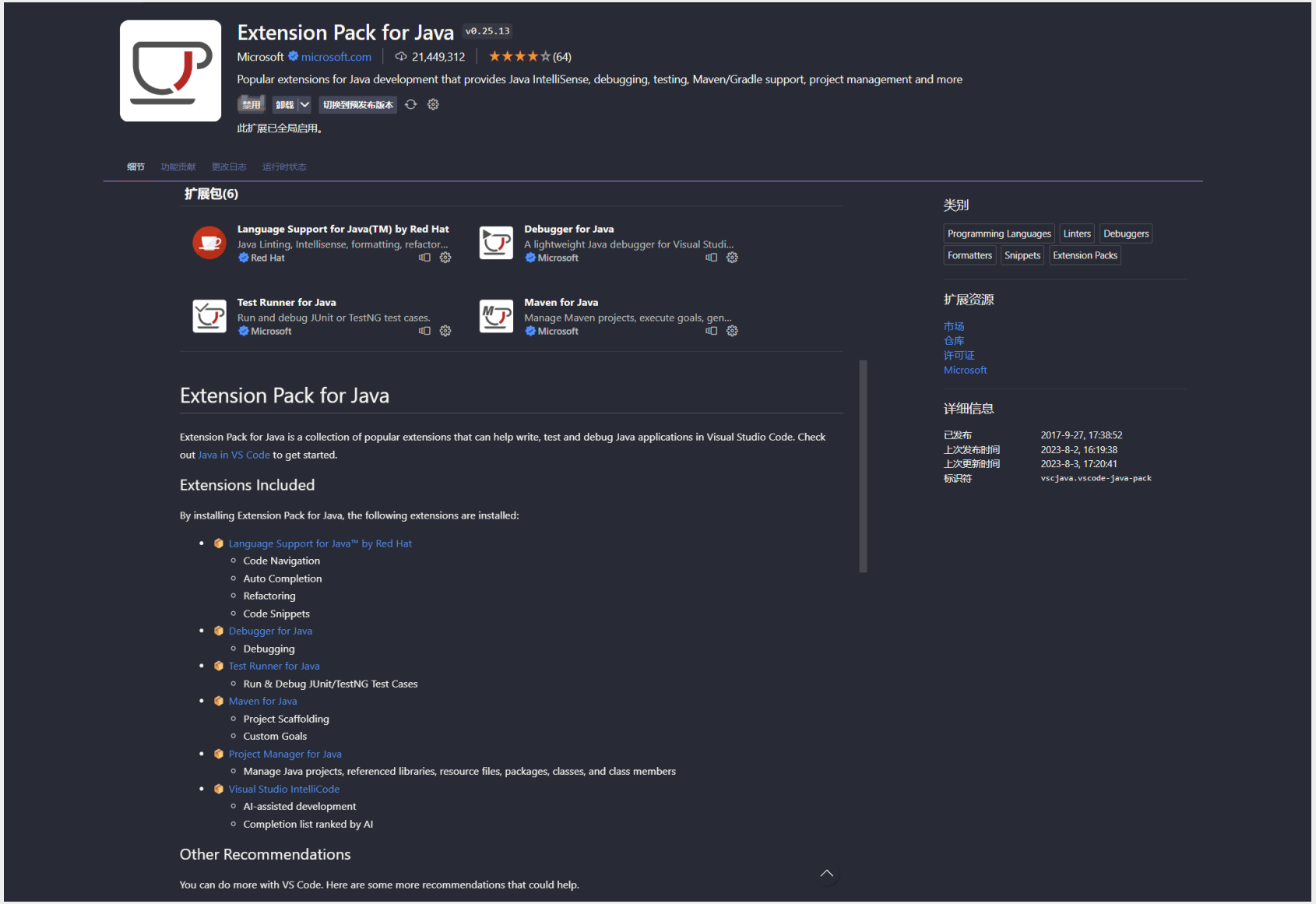


Part 2*: Run Java in VS Code

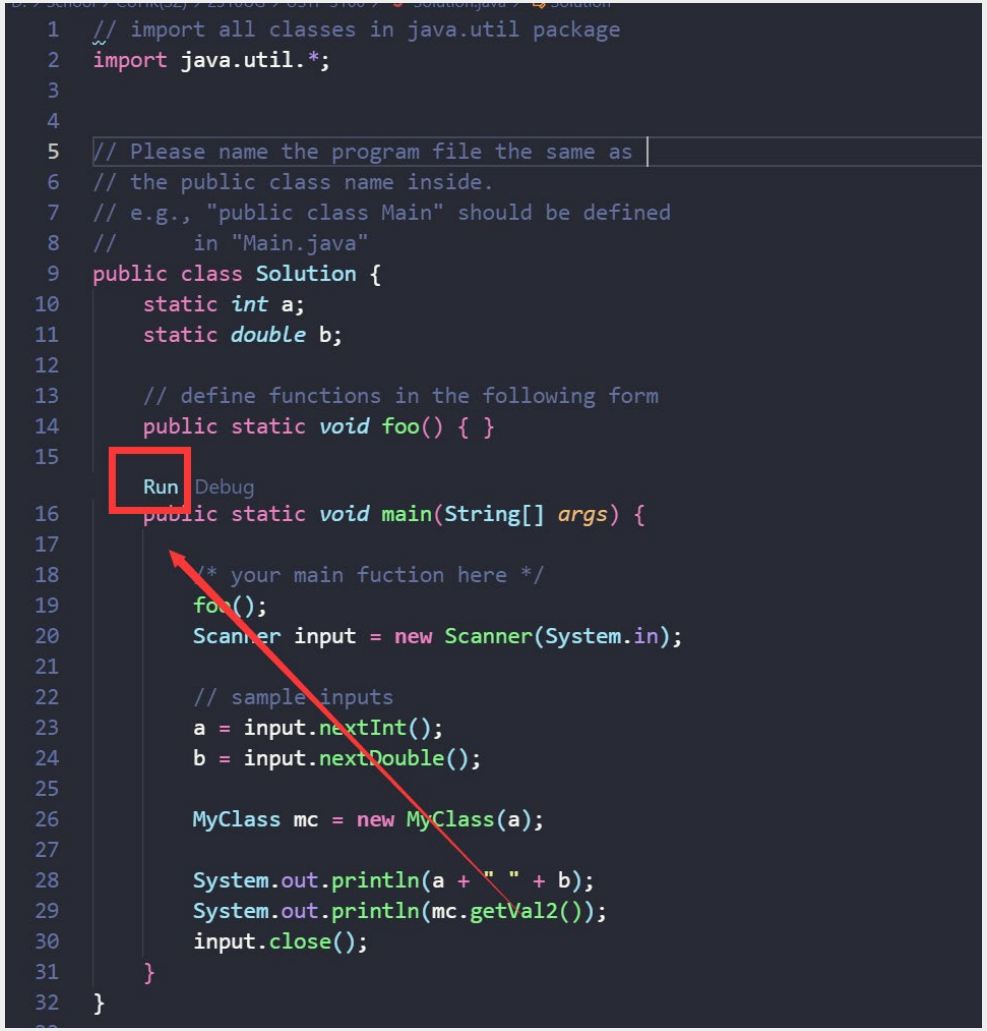
Reference materials, starting from the very beginning

https://code.visualstudio.com/docs/java/java-tutorial#_settings-for-the-jdk

Install packages



Run the Program

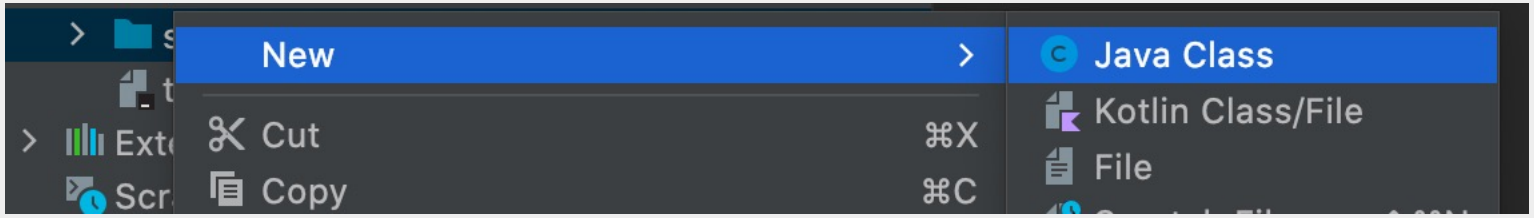


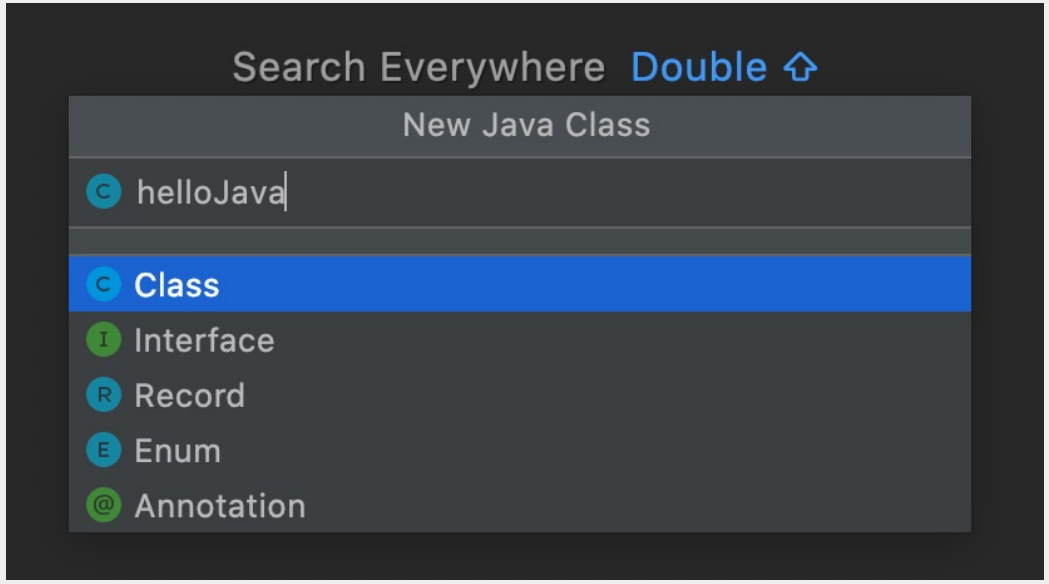
Part 3: Java code

IDEA as example

Create class

Right click the *src* folder and then create a Java Class





First Java code

Click this one and then choose run option


```
/Library/Java/JavaVirtualMachines/jdk-17.0.1.jdk/Contents/Home/bin/java -javaagent:
Hello Java: This is my first Java code
```

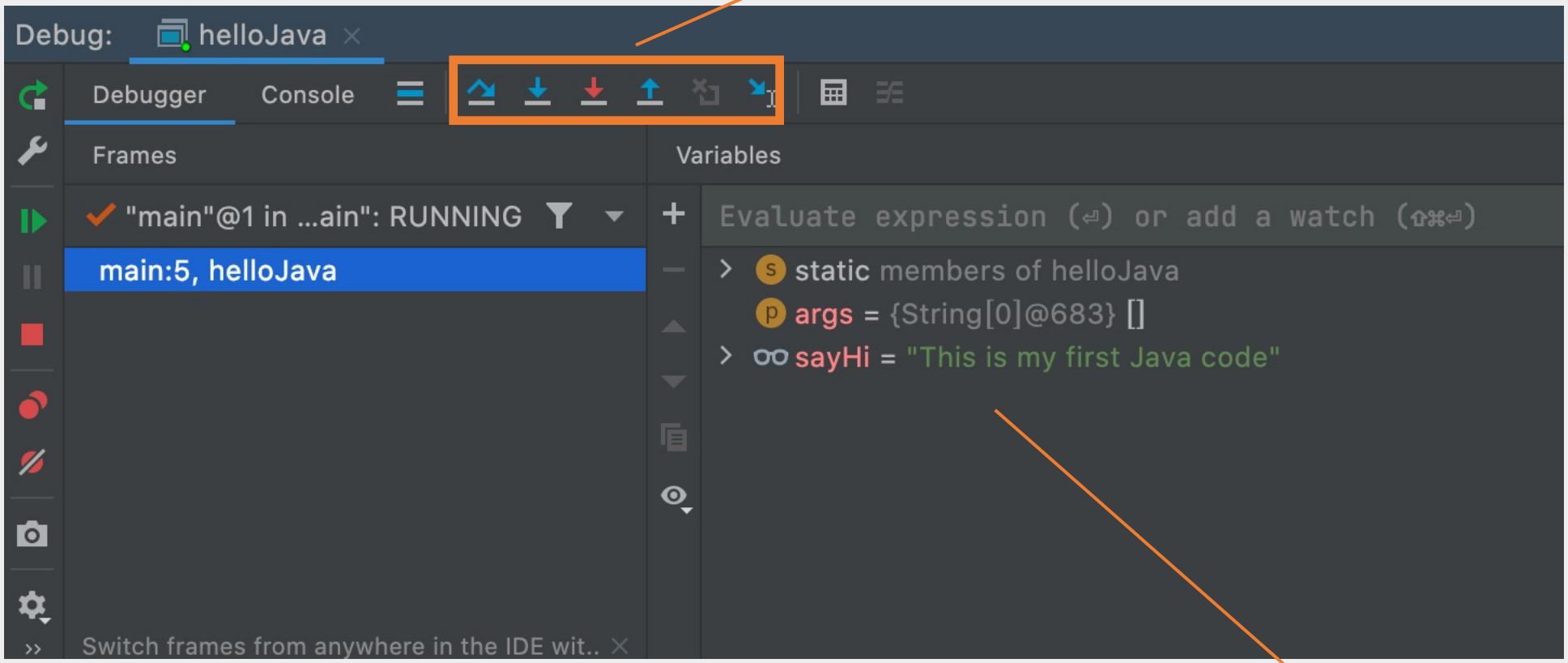
Debug this Java code

Set the breakpoints by clicking the position of the below red point.

Click the green button and choose debug option

Debug this Java code

We could use these operations to help you debug



This one contains the information of the variables