

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

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 with
Intel chip

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

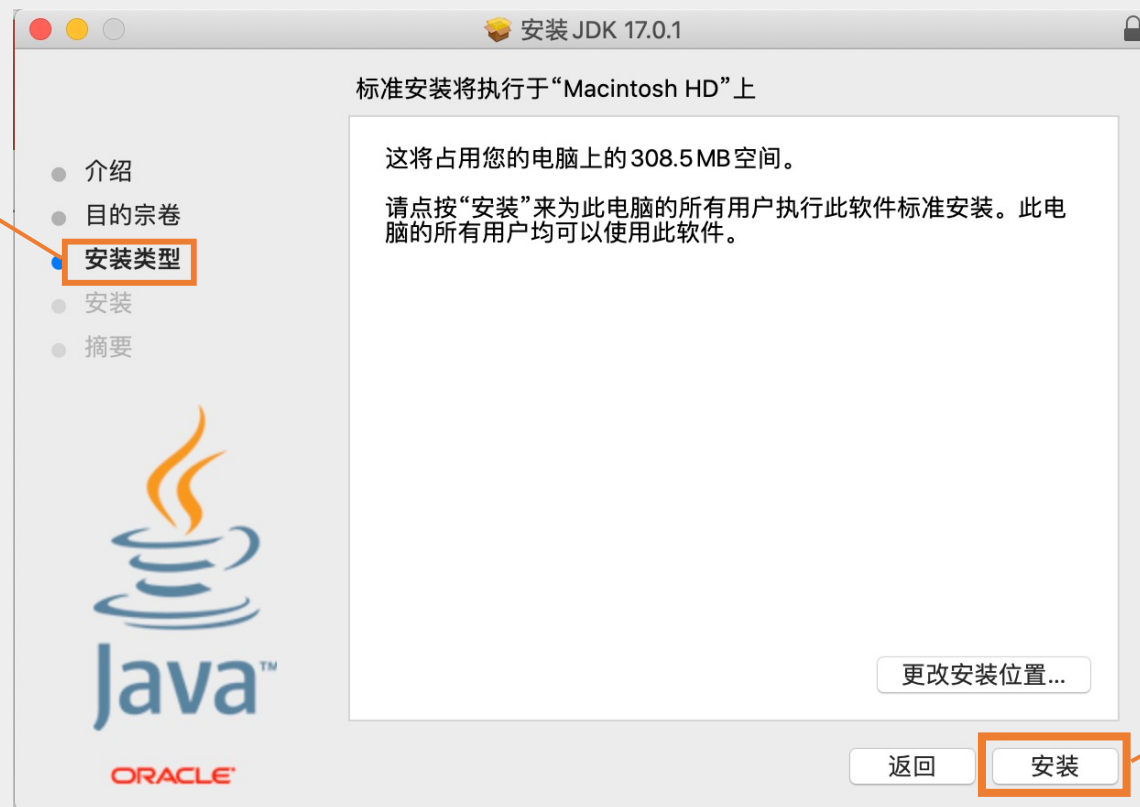


Click Continue
button again

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.

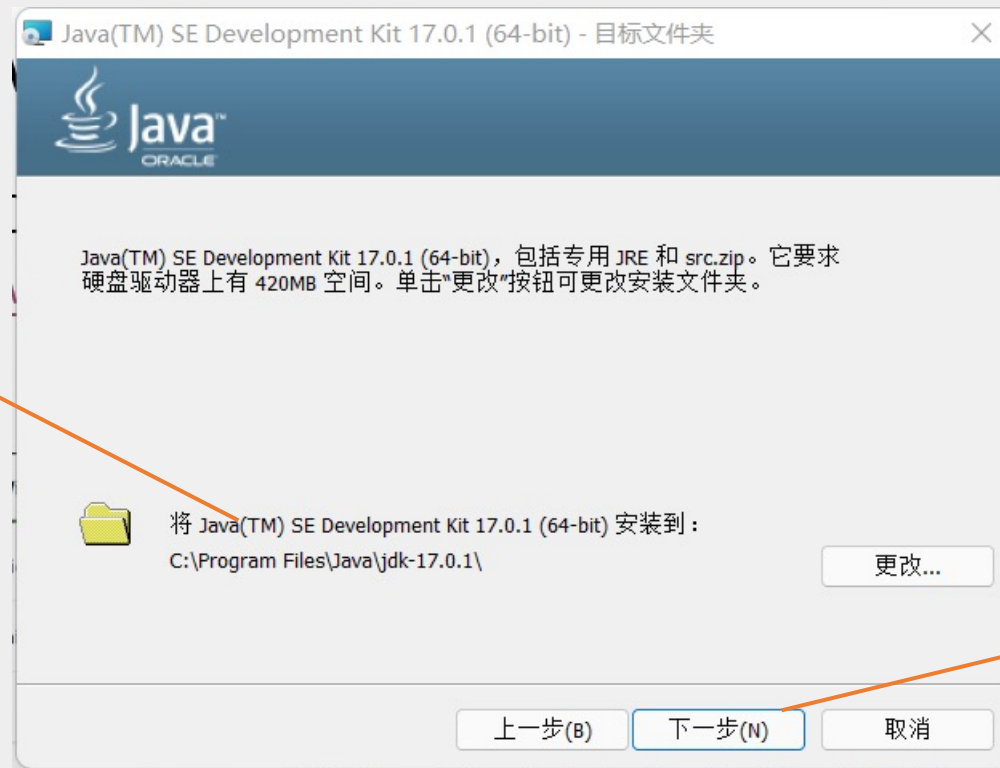


Click this button

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.



The screenshot shows a Windows PowerShell window with a title bar that says "Windows PowerShell". Below the title bar is a notification bar with an information icon and the text "Windows 终端可在设置中设置为默认终端应用程序。 打开设置". The main content area of the terminal is black with white text. It displays the following text:

```
Windows PowerShell
版权所有 (C) Microsoft Corporation。保留所有权利。

安装最新的 PowerShell，了解新功能和改进！https://aka.ms/PSWindows

PS C:\Users\spida> javac --version
javac 17.0.1
PS C:\Users\spida> java --version
java 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)
PS C:\Users\spida>
```

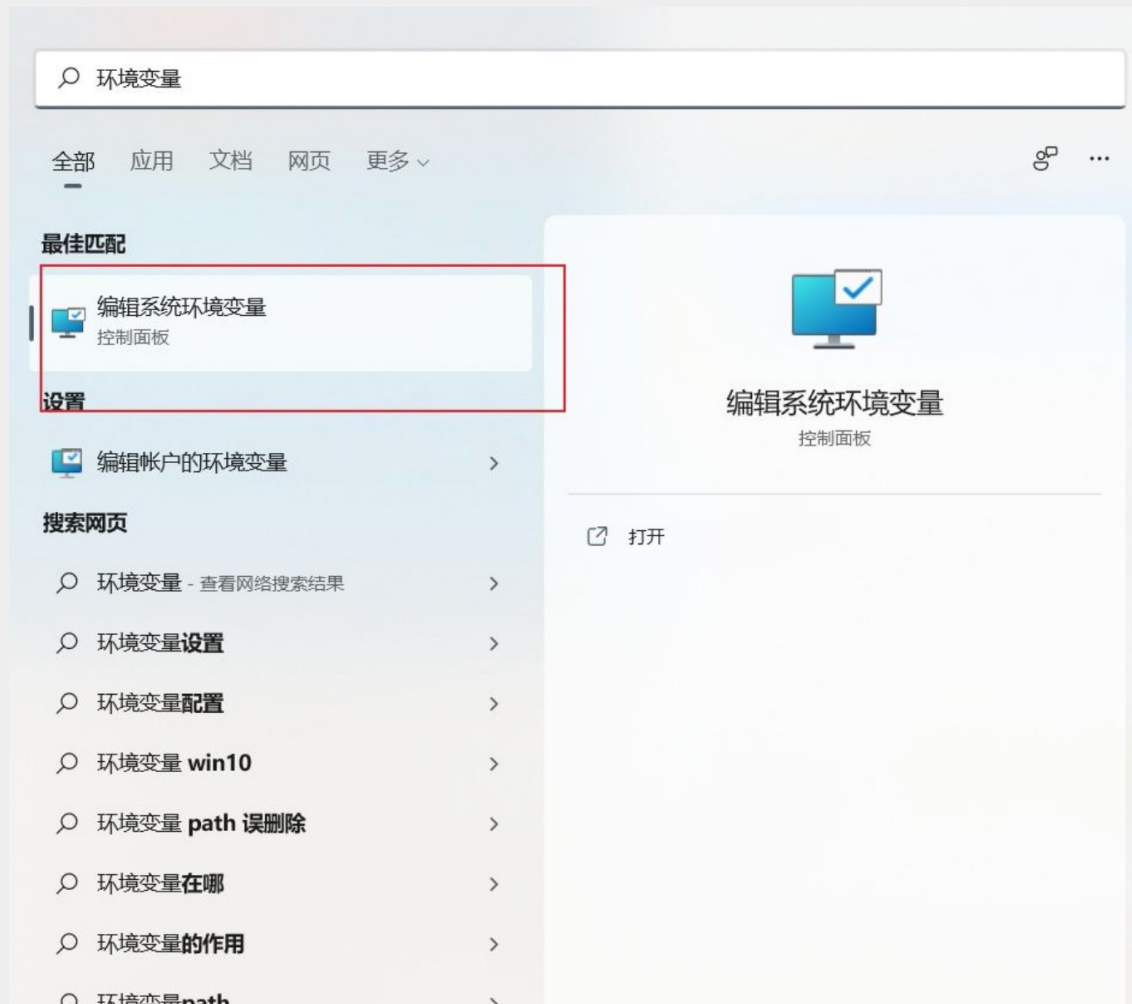
For Windows

- 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.



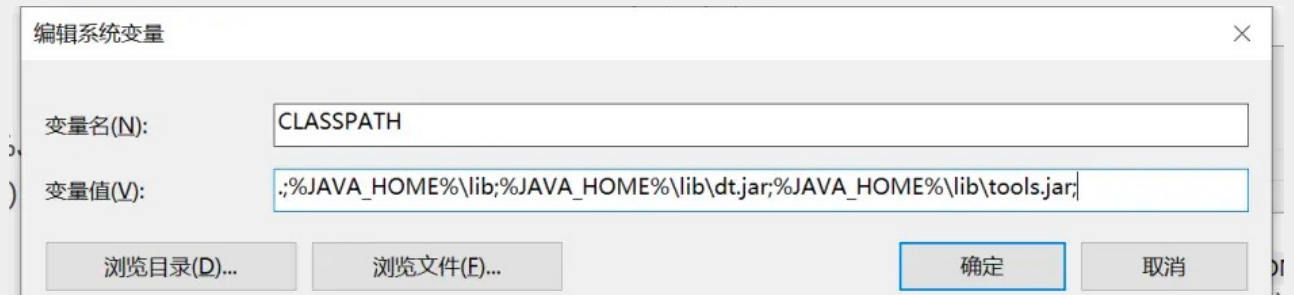
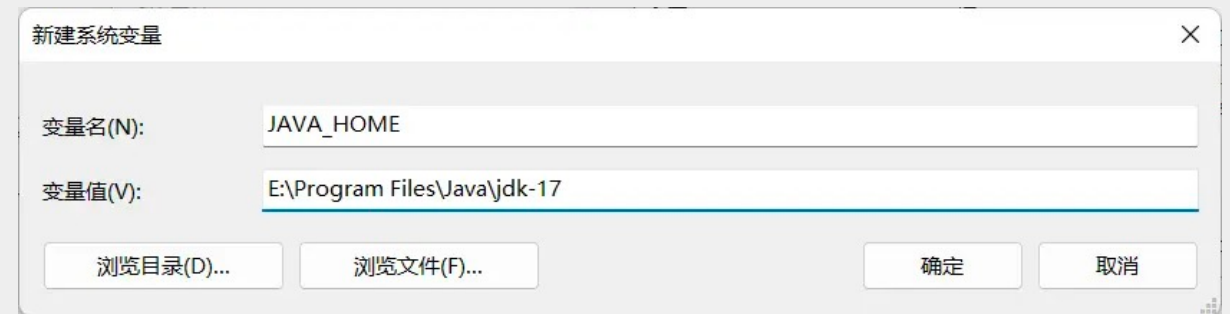
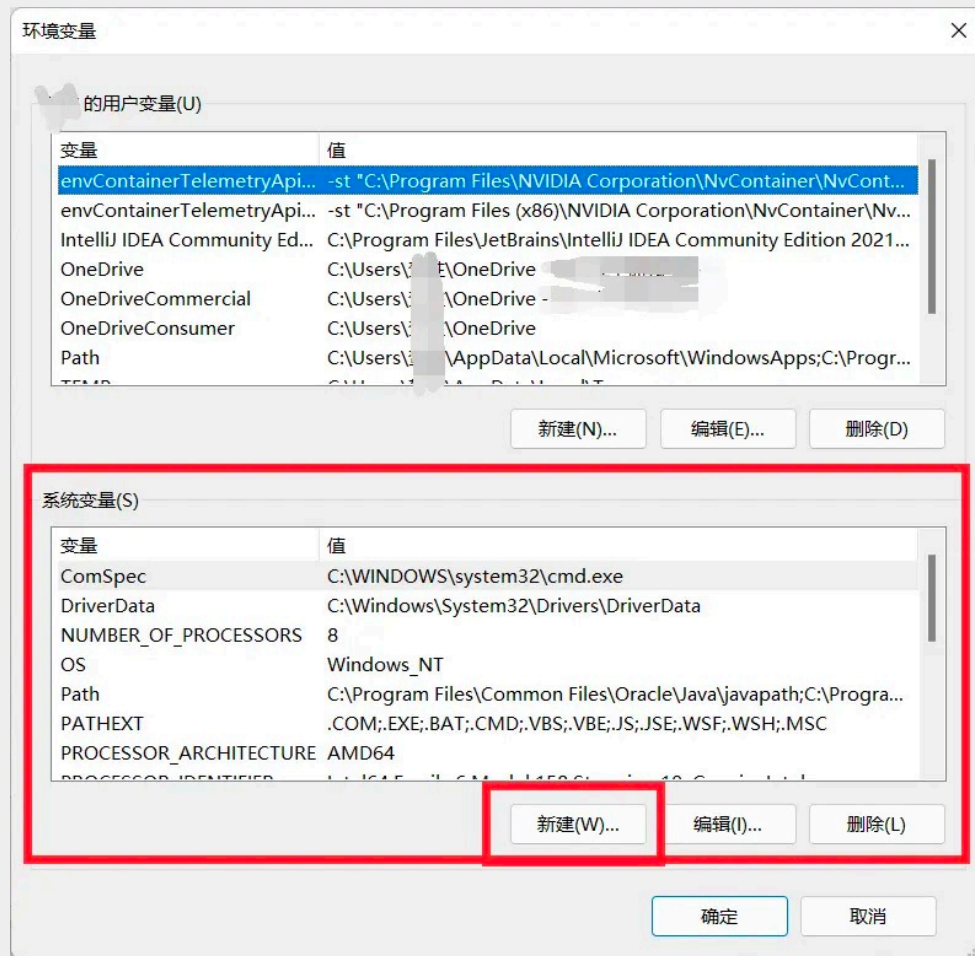
For Windows

Click Advanced and then Environment Variables.



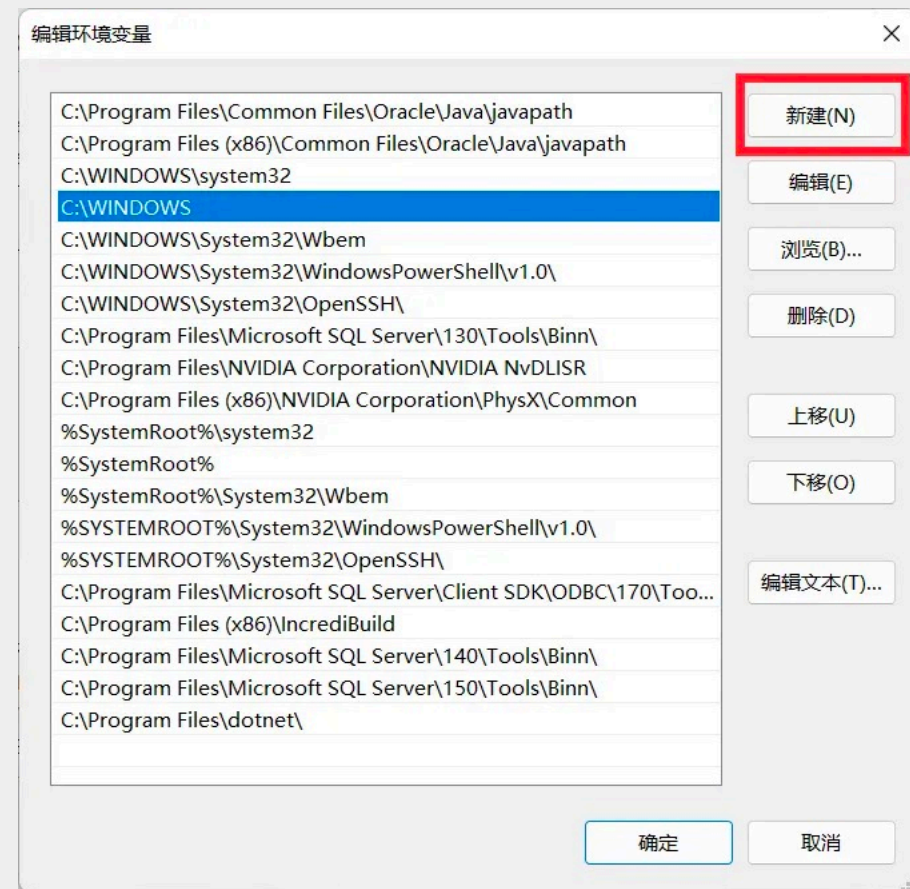
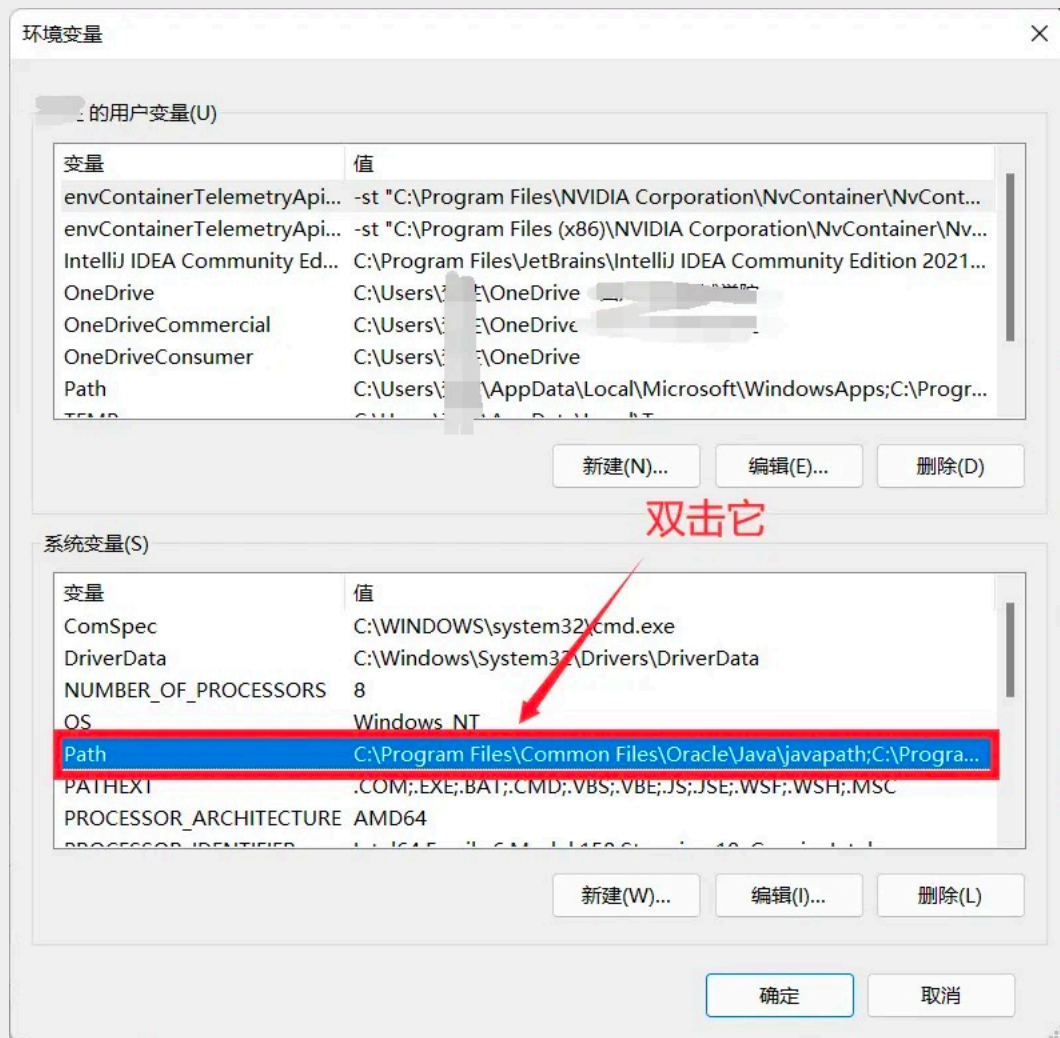
For Windows

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/>

	IntelliJ IDEA Ultimate	IntelliJ IDEA Community Edition ⓘ
Java, Kotlin, Groovy, Scala	✓	✓
Maven, Gradle, sbt	✓	✓
Git, GitHub, SVN, Mercurial, Perforce	✓	✓
Debugger	✓	✓
Docker	✓	✓
Profiling tools ⓘ	✓	
Spring, Jakarta EE, Java EE, Micronaut, Quarkus, Helidon, and more ⓘ	✓	
HTTP Client	✓	
JavaScript, TypeScript, HTML, CSS, Node.js, Angular, React, Vue.js	✓	
Database Tools, SQL	✓	
Remote Development (Beta)	✓	
Collaborative development	✓	<input checked="" type="checkbox"/>

Compare editions

Download

.dmg (Intel) ▼

Free 30-day trial

Download

.dmg (Intel) ▲

Free, built on open source

.exe (Windows)

.dmg (macOS Intel)

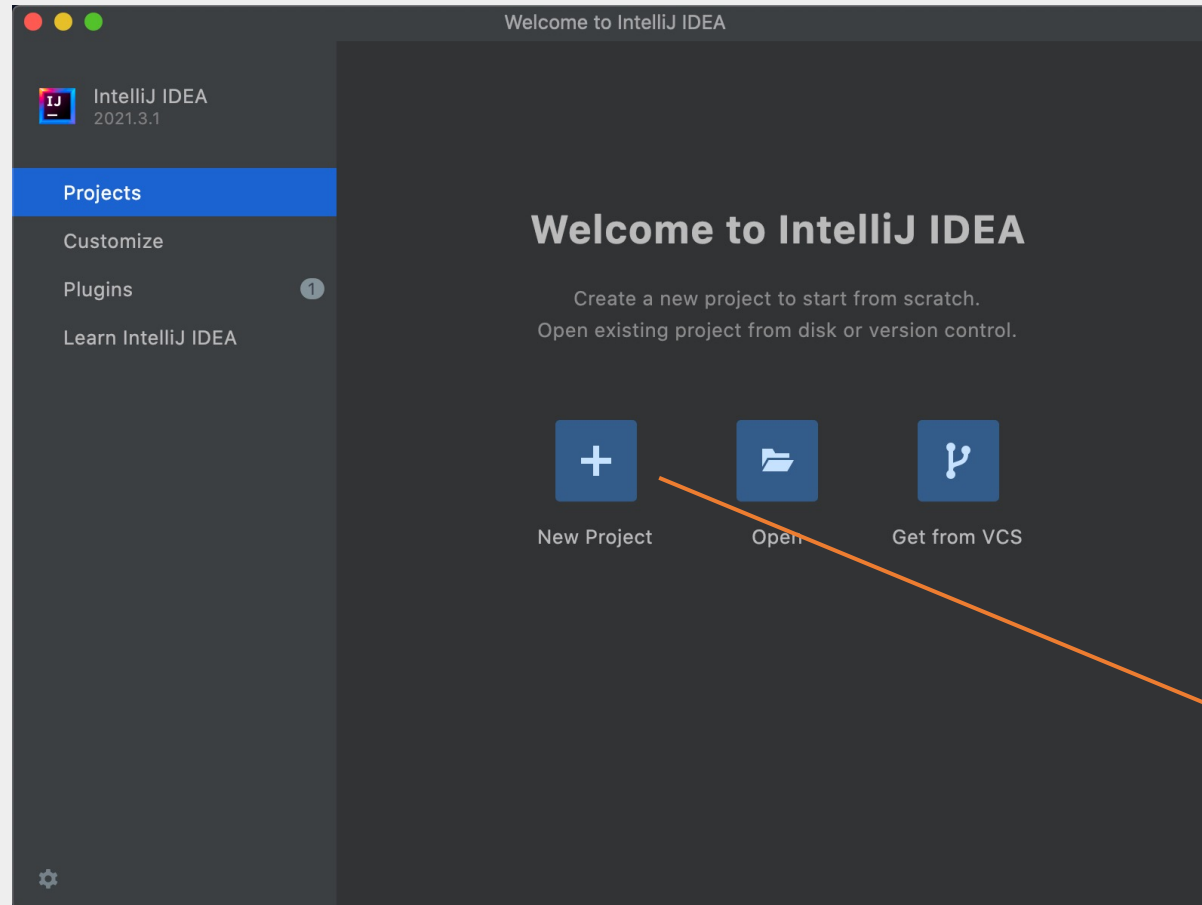
.dmg (macOS Apple Silicon)

.tar.gz (Linux)

Choose your version

Open IntelliJ

Open IntelliJ and click New Project Button

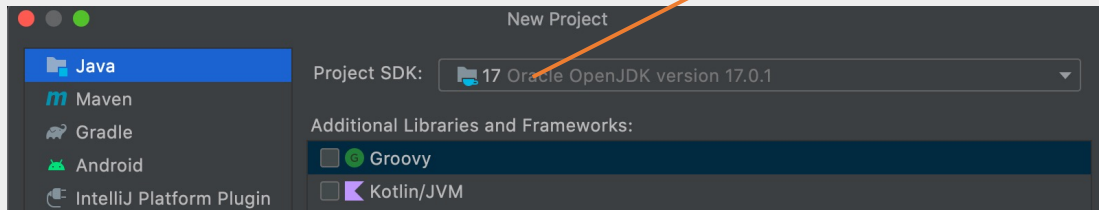


Click New Project

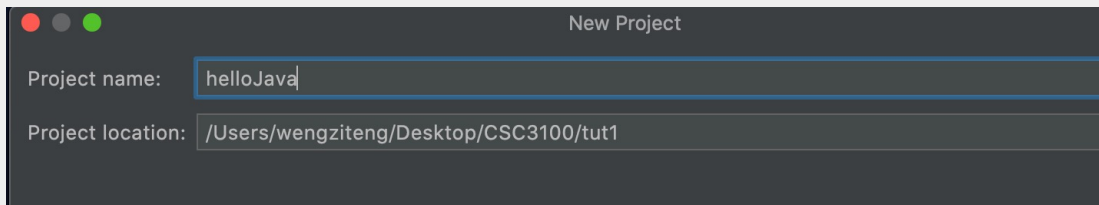
Create Project

Old UI

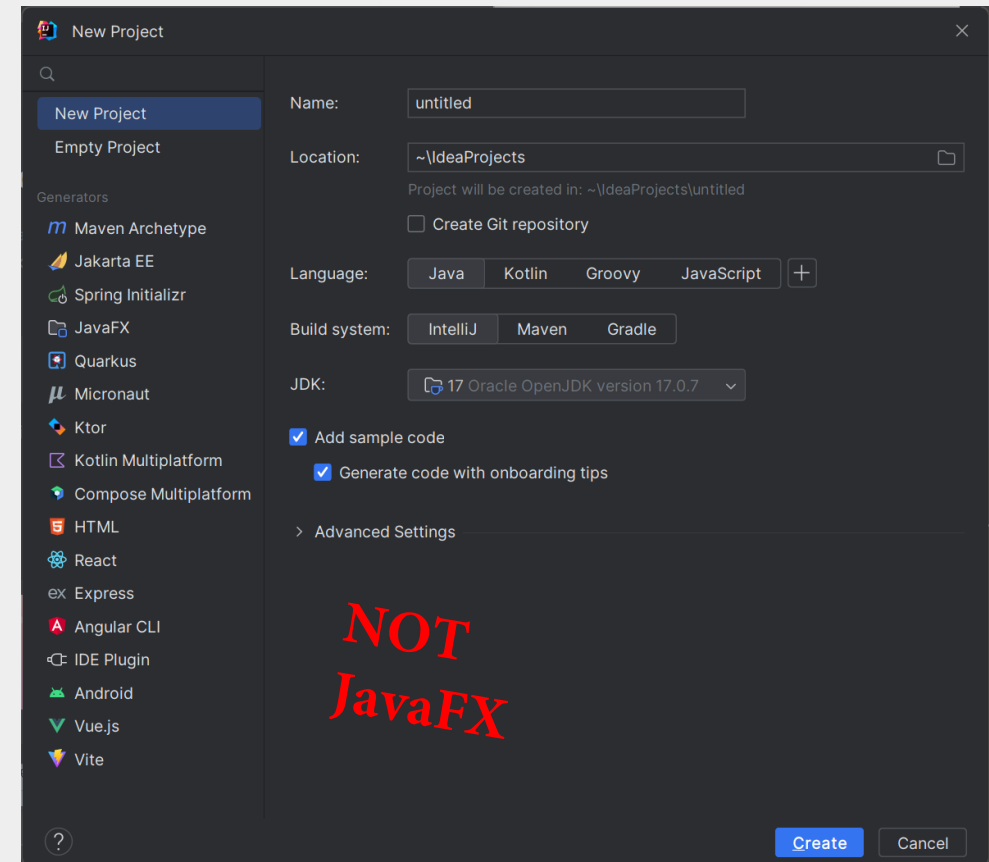
You could see that you have
already downloaded JDK



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





Extension Pack for Java

v0.25.13

Microsoft

microsoft.com

21,449,312


★★★★☆ (64)


Popular extensions for Java development that provides Java IntelliSense, debugging, testing, Maven/Gradle support, project management and more

禁用

卸载

切换到预览版本





此扩展已全局启用。


细节

功能贡献

更改日志


运行时状态


扩展包(6)



Language Support for Java(TM) by Red Hat


Java Linting, Intellisense, formatting, refactor...






Debugger for Java


A lightweight Java debugger for Visual Studi...






Test Runner for Java


Run and debug JUnit or TestNG test cases.





Maven for Java

Manage Maven projects, execute goals, gen...



类别

Programming Languages

Linters

Debuggers

Formatters

Snippets

Extension Packs

扩展资源

市场

仓库

许可证

Microsoft

详细信息

已发布

2017-9-27, 17:38:52

上次发布时间

2023-8-2, 16:19:38

上次更新时间

2023-8-3, 17:20:41

标识符







vscjava.vscode-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:

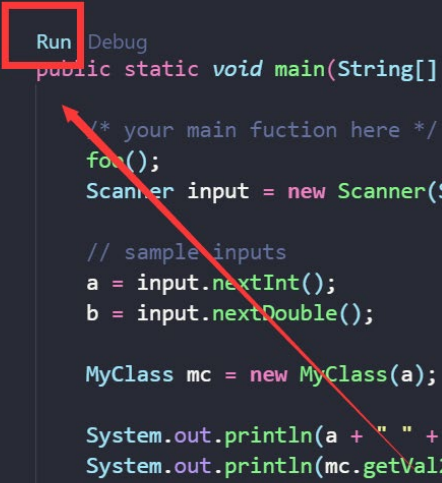
-  Language Support for Java™ by Red Hat
 - Code Navigation
 - Auto Completion
 - Refactoring
 - Code Snippets
-  Debugger for Java
 - Debugging
-  Test Runner for Java
 - Run & Debug JUnit/TestNG Test Cases
-  Maven for Java
 - Project Scaffolding
 - Custom Goals
-  Project Manager for Java
 - Manage Java projects, referenced libraries, resource files, packages, classes, and class members
-  Visual Studio IntelliCode
 - AI-assisted development
 - Completion list ranked by AI

Other Recommendations

You can do more with VS Code. Here are some more recommendations that could help.

Run the Program

```
1 // import all classes in java.util package
2 import java.util.*;
3
4
5 // Please name the program file the same as
6 // the public class name inside.
7 // e.g., "public class Main" should be defined
8 // in "Main.java"
9 public class Solution {
10     static int a;
11     static double b;
12
13     // define functions in the following form
14     public static void foo() { }
15
16     public static void main(String[] args) {
17         /* your main fuction here */
18         foo();
19         Scanner input = new Scanner(System.in);
20
21         // sample inputs
22         a = input.nextInt();
23         b = input.nextDouble();
24
25         MyClass mc = new MyClass(a);
26
27         System.out.println(a + " " + b);
28         System.out.println(mc.getVal2());
29         input.close();
30     }
31 }
32 }
```

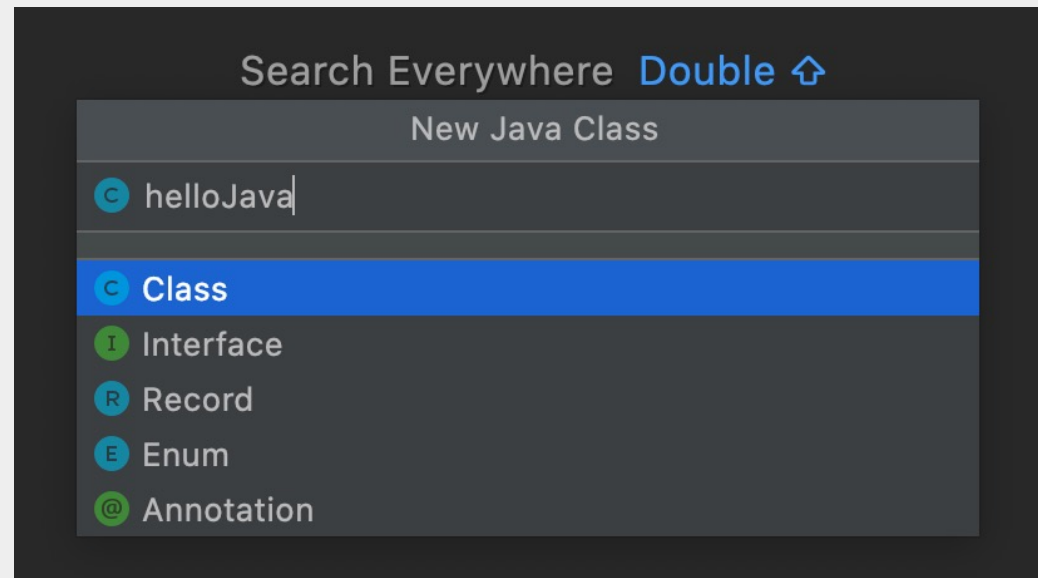
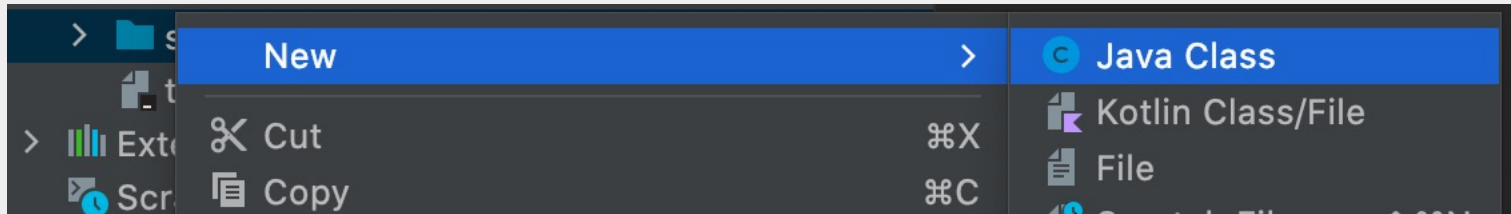


Part 3: Java code

IDEA as example

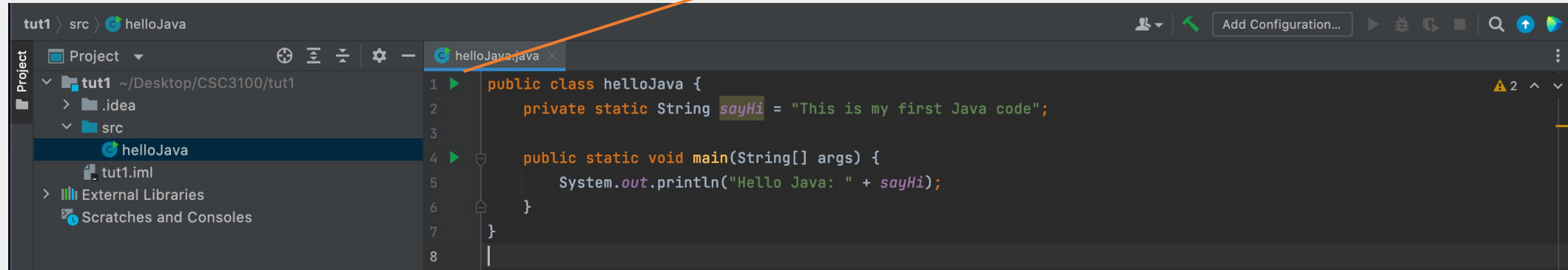
Create class

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



First Java code

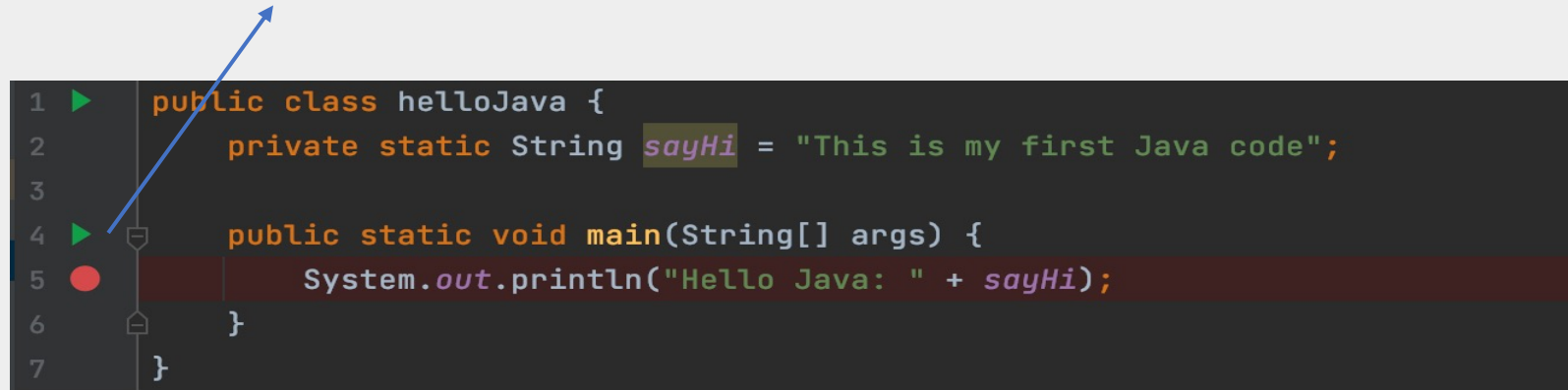
Click this one and then choose run option



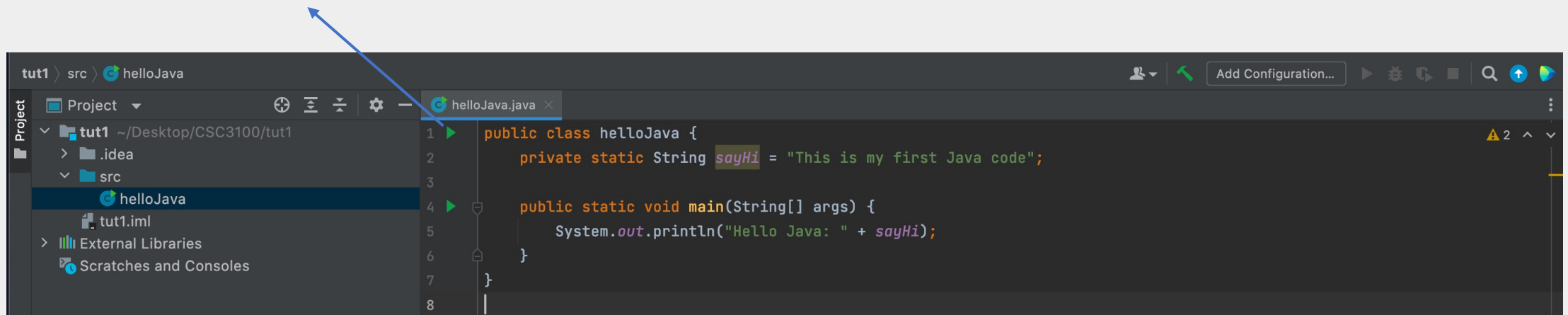
```
/Library/Java/JavaVirtualMachines/jdk-17.0.1.jdk/Contents/Home/bin/java -javaagent:  
Hello Java: This is my first Java code
```

Debug this Java code

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

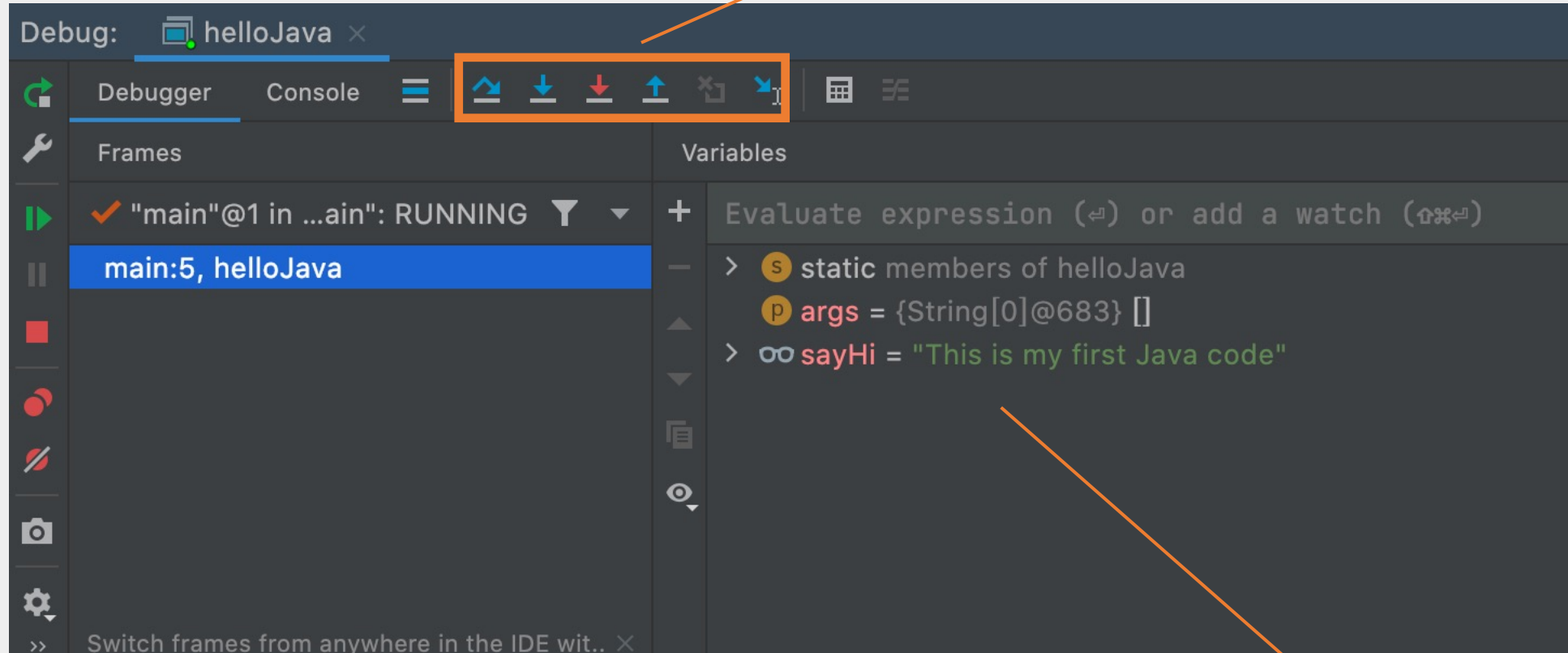


Click the green button and choose debug option



Debug this Java code

We could use these operations to help you debug



This one contains the information of the variables