

# Introduction to computer programming A LAB1

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# Class Schedule

- **Lectures:** 星期一 10:20 - 12:10 荔园1栋102
- LAB6: 星期二 19: 00-20: 50 二教204机房
- LAB7: 星期三 10: 20-12: 10 二教206机房
- LAB8: 星期三 14: 00-15: 50 二教206机房
- LAB9: 星期三 19: 00-20: 50 二教204机房
- **Grading policy**

Lecture attendance and quizzes (5%)

Lab attendance and exercise (5%)

Assignments (30%)

Project (20%)

Final exam (40%)

# Introduction

- **Lab exercise:** The content of lab exercise is prepared according to the knowledge introduced in lectures. Normally, we provide 3 to 7 exercises per lab.
- **Lab Assignment:** 2. The assignment is independent from the lab exercise and will be sent to you separately. All of you should submit the assignment before the deadline. There will be about 6 assignments in this course.

## **Submission of Assignment:**

*We will use an Online Judge (OJ) platform to automatically grade your programming assignments. More instructions will be given later.*

- **Final Project:** Before the end of this semester, all of you should accomplish a project. The number of group members is 2-3.

# Other considerations

- Student Assistant
- Communication platform:

QQ group:



群名称:CS102A\_2020S\_LAB6|LAB...  
群 号:588608075



# OBJECTIVES

**1 Downloading and Installing JDK**

**2 Editing, Compiling and Running Java programs**

**3 exercises**



# **1 Downloading and Installing JDK**

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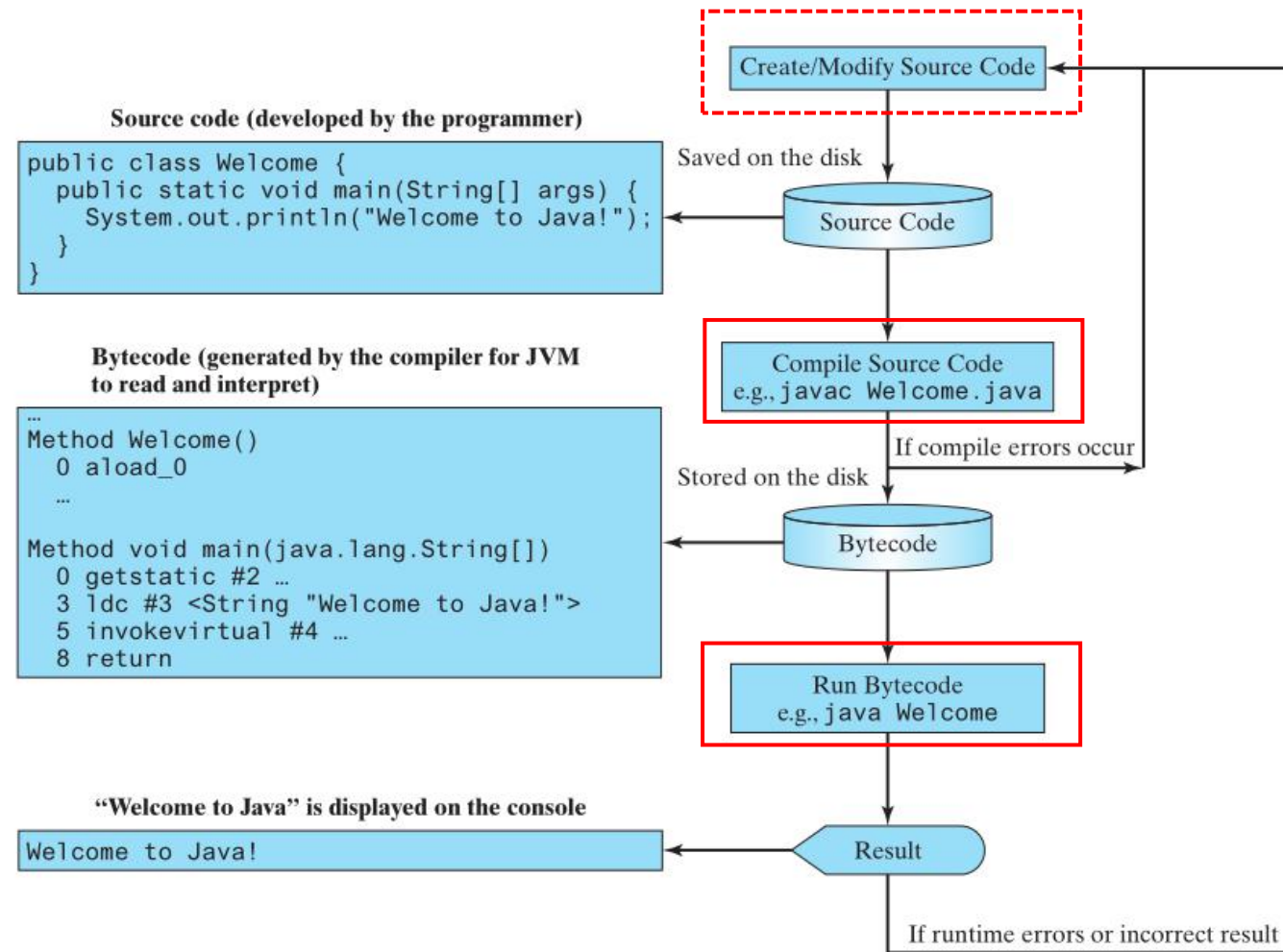
**1.1 What is JDK**

**1.2 Downloading JDK**

**1.3 Installing JDK**

**1.4 Configuring JDK**

## 1.1 what is jdk?



The Java Development Kit (JDK) is a software development environment used for developing Java applications and applets. It includes a Java Runtime Environment (JRE), an interpreter/loader (`java`), a compiler (`javac`), an archiver (`jar`), a documentation generator (`javadoc`) and other tools needed in Java development.

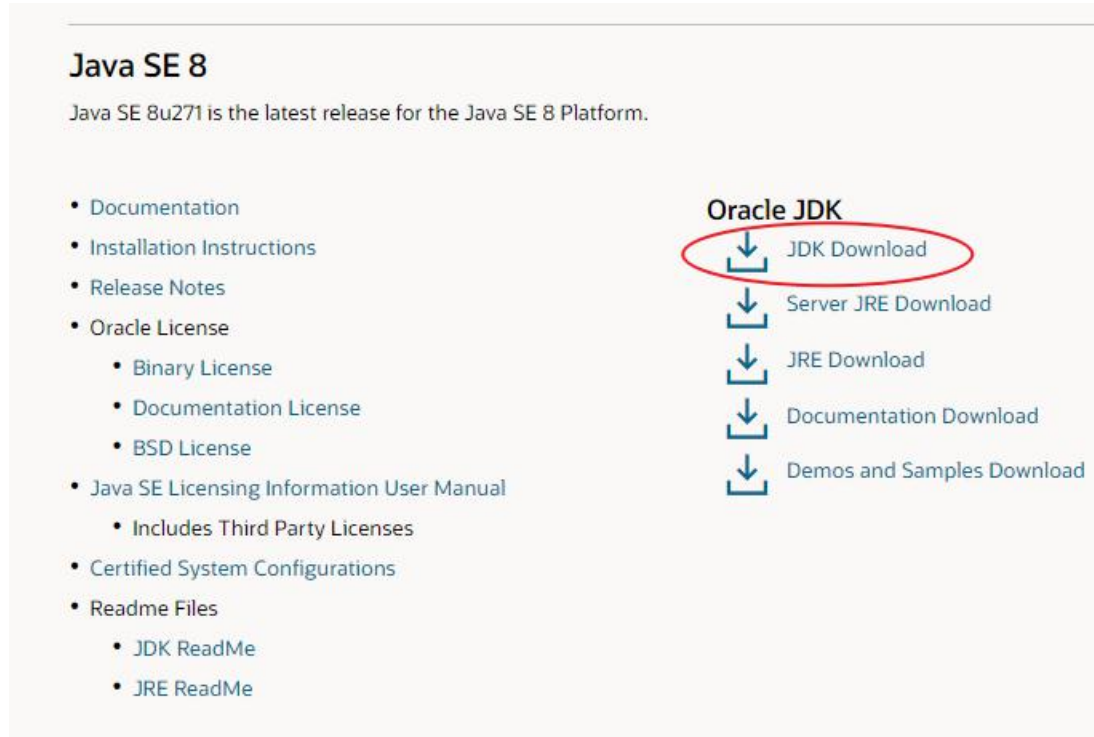


## 1.2 Downloading JDK

Download url: <https://www.oracle.com/java/technologies/javase-downloads.html>

1. Scroll to the **Java SE 8** section in the middle of the **Oracle Java download page** and click on the **JDK Download**. Then look for the **Java SE Development Kit 8u271** section.

2. Pick the correct download for your operating system and Accept the License Agreement. In this example, we will use the Windows 64 bit version.



**Java SE 8**  
Java SE 8u271 is the latest release for the Java SE 8 Platform.

- Documentation
- Installation Instructions
- Release Notes
- Oracle License
  - Binary License
  - Documentation License
  - BSD License
- Java SE Licensing Information User Manual
  - Includes Third Party Licenses
- Certified System Configurations
- Readme Files
  - JDK ReadMe
  - JRE ReadMe

**Oracle JDK**


- ↓ **JDK Download**
- ↓ Server JRE Download
- ↓ JRE Download
- ↓ Documentation Download
- ↓ Demos and Samples Download

Linux x86 RPM Package	108.3 MB	<a href="#">jdk-8u271-linux-i586.rpm</a>
Linux x86 Compressed Archive	136.69 MB	<a href="#">jdk-8u271-linux-i586.tar.gz</a>
Linux x64 RPM Package	107.76 MB	<a href="#">jdk-8u271-linux-x64.rpm</a>
Linux x64 Compressed Archive	136.51 MB	<a href="#">jdk-8u271-linux-x64.tar.gz</a>
macOS x64	205.46 MB	<a href="#">jdk-8u271-macosx-x64.dmg</a>
Solaris SPARC 64-bit (SVR4 package)	125.94 MB	<a href="#">jdk-8u271-solaris-sparcv9.tar.Z</a>
Solaris SPARC 64-bit	88.75 MB	<a href="#">jdk-8u271-solaris-sparcv9.tar.gz</a>
Solaris x64 (SVR4 package)	134.42 MB	<a href="#">jdk-8u271-solaris-x64.tar.Z</a>
Solaris x64	92.52 MB	<a href="#">jdk-8u271-solaris-x64.tar.gz</a>
Windows x86	154.48 MB	<a href="#">jdk-8u271-windows-i586.exe</a>
Windows x64	166.79 MB	<a href="#">jdk-8u271-windows-x64.exe</a>

✕

You must accept the [Oracle Technology Network License Agreement for Oracle Java SE](#) to download this software.

☒ I reviewed and accept the Oracle Technology Network License Agreement for Oracle Java SE

Download jdk-8u271-windows-x64.exe 



## 1.2 Downloading JDK

3. Sign in using your Oracle account (or create a new one) and the download should start.

Oracle 帐户登录

用户名  
jyh\_jiayanhong@163.com

密码  
.....

登录

[需要帮助?](#)

没有 Oracle 帐户?

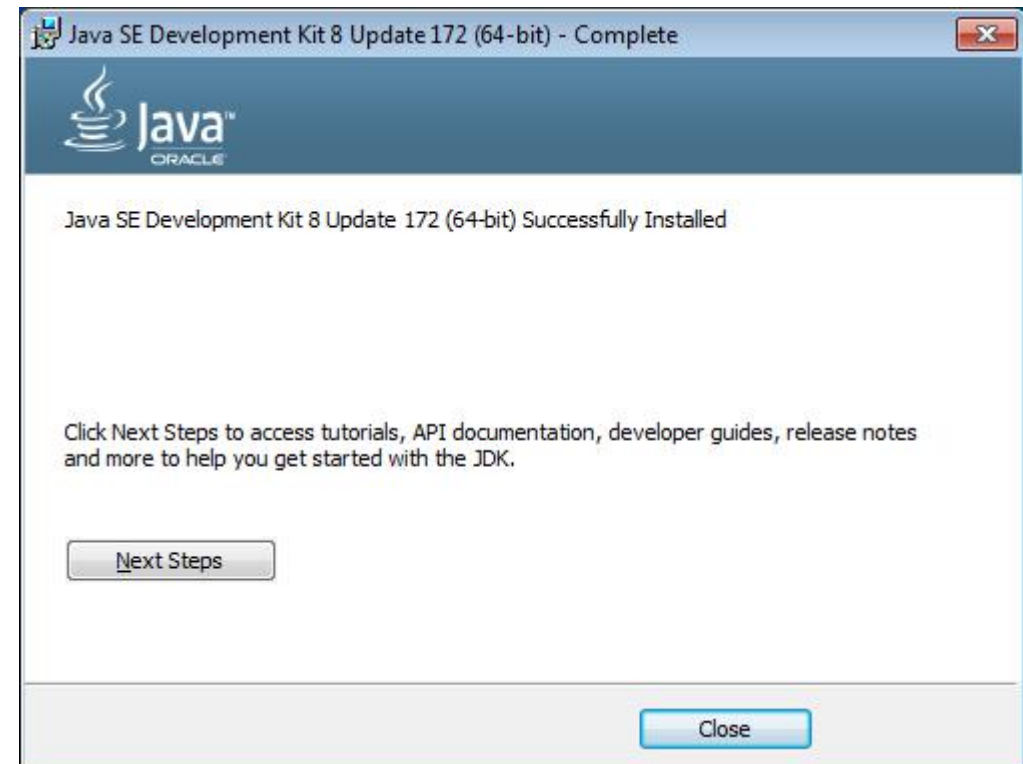
创建帐户

## 1.3 Installing JDK

- ◆ Once the download is complete, locate the *jdk-8u212-windows-x64.exe* file and **double-click** to run the installer.
- ◆ Click *Next* and on the following screen optionally change the installation location by clicking on the *Change...* button. In this example the default install location of '*C:\Program Files\Java\jdk1.8.0\_212\*' was kept. From now on we will refer to this directory as: *[java\_install\_dir]*.

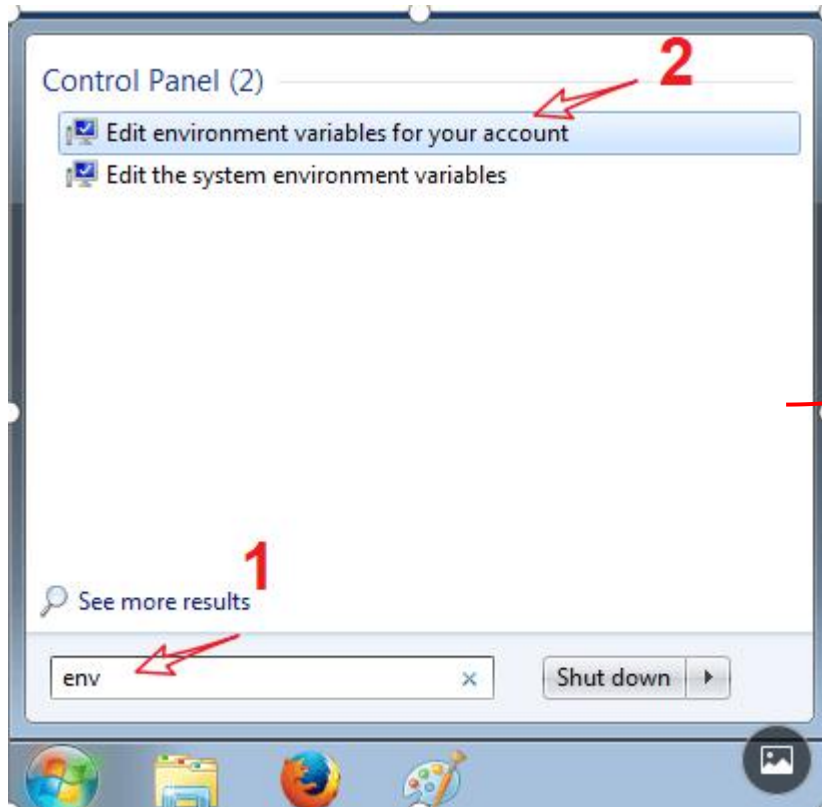


- Click *Next* and then *Close* to finish installing Java.

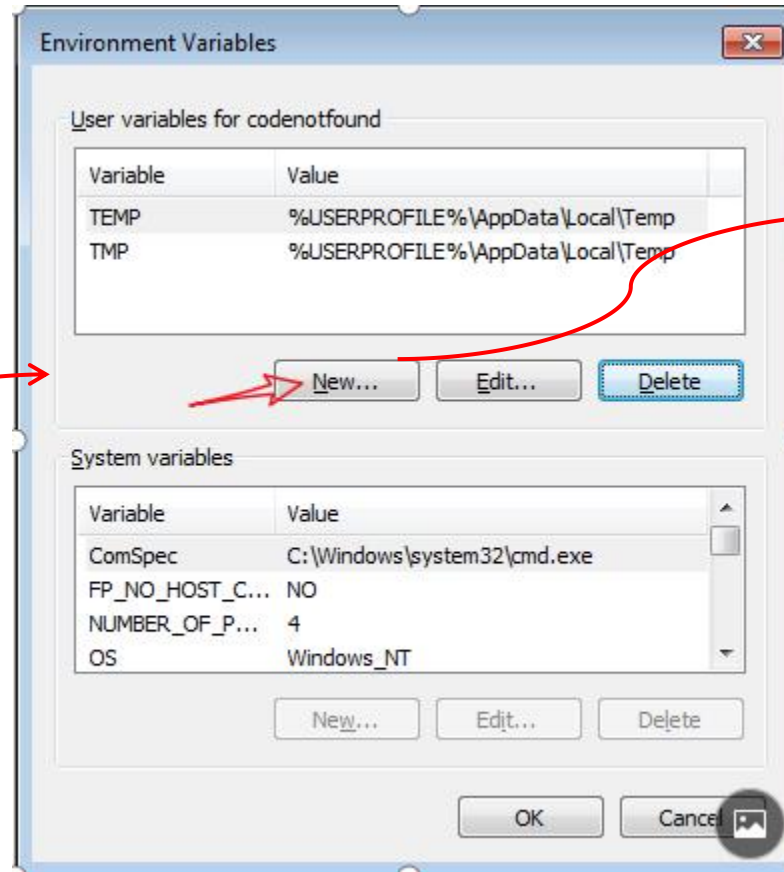


## 1.4 Configuring JDK

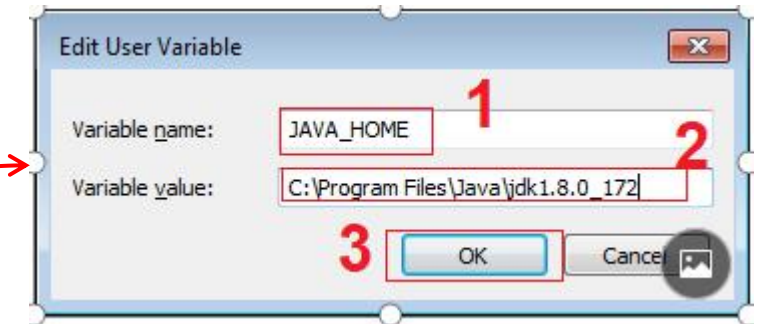
1. Click on the Windows **Start** button and enter “**env**” without quotes as shown below.



2. click on *Edit environment variables for your account* and following panel should appear.



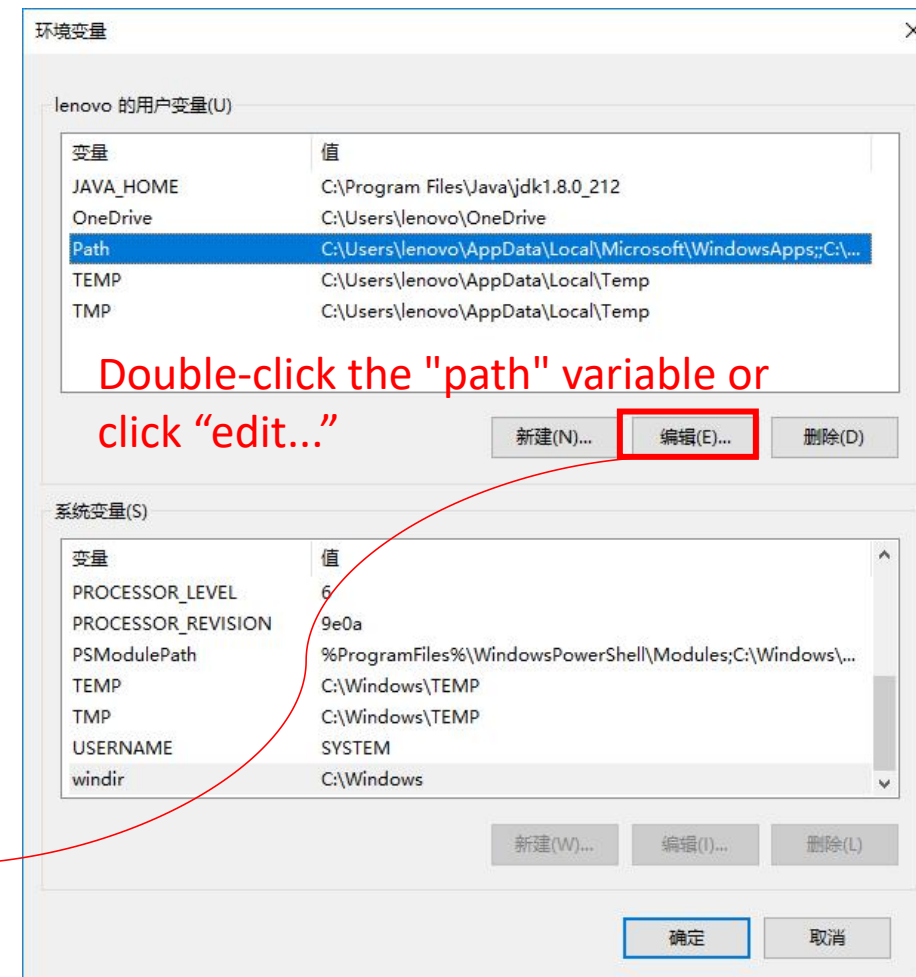
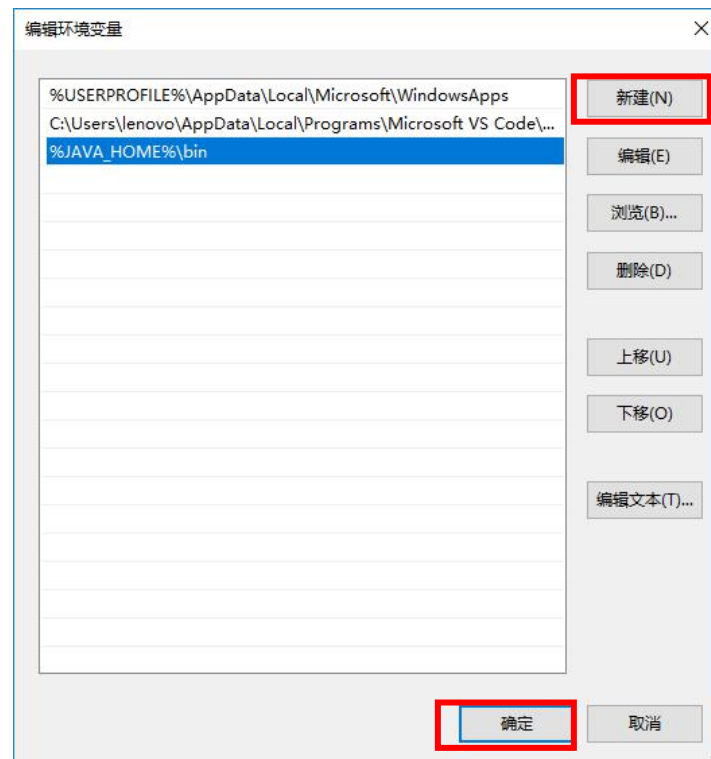
3. Click on the New button and enter “**JAVA\_HOME**” as variable name and the [java\_install\_dir] as variable value. In this tutorial the installation directory is '**C:\Program Files\Java\jdk1.8.0\_212**'. Click OK to to save.



## 1.4 Configuring JDK

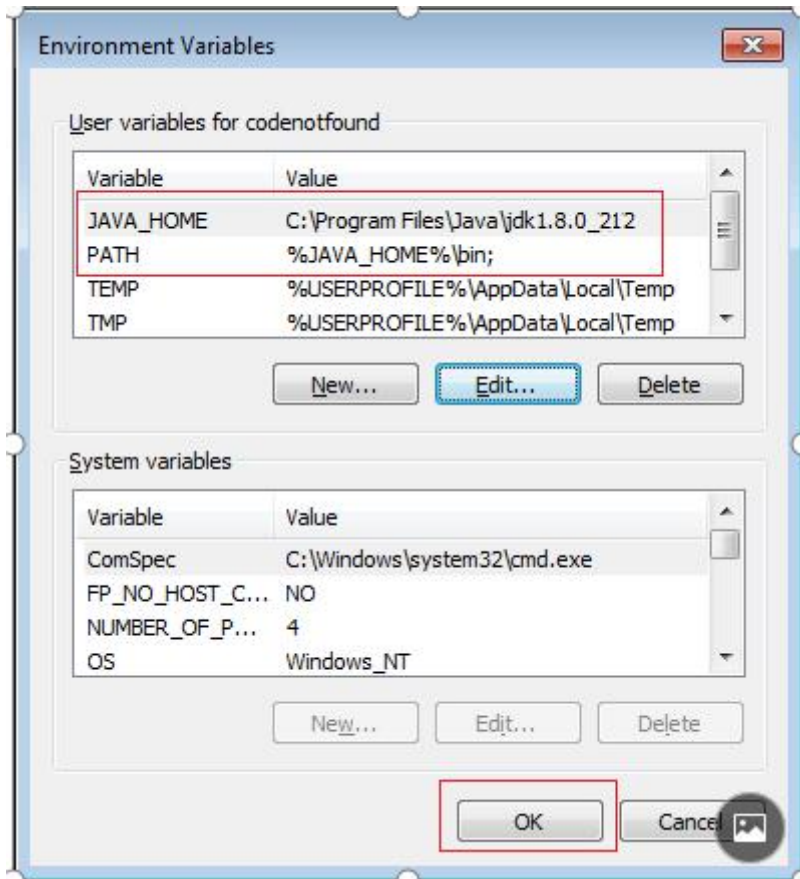
4. Click on the New button and enter “**PATH**” as variable name and “**%JAVA\_HOME%\bin**” as variable value. Click OK to save.

**Note that** in case a '**PATH**' variable is already present you can add “**;%JAVA\_HOME%\bin**” at the end of the variable value.



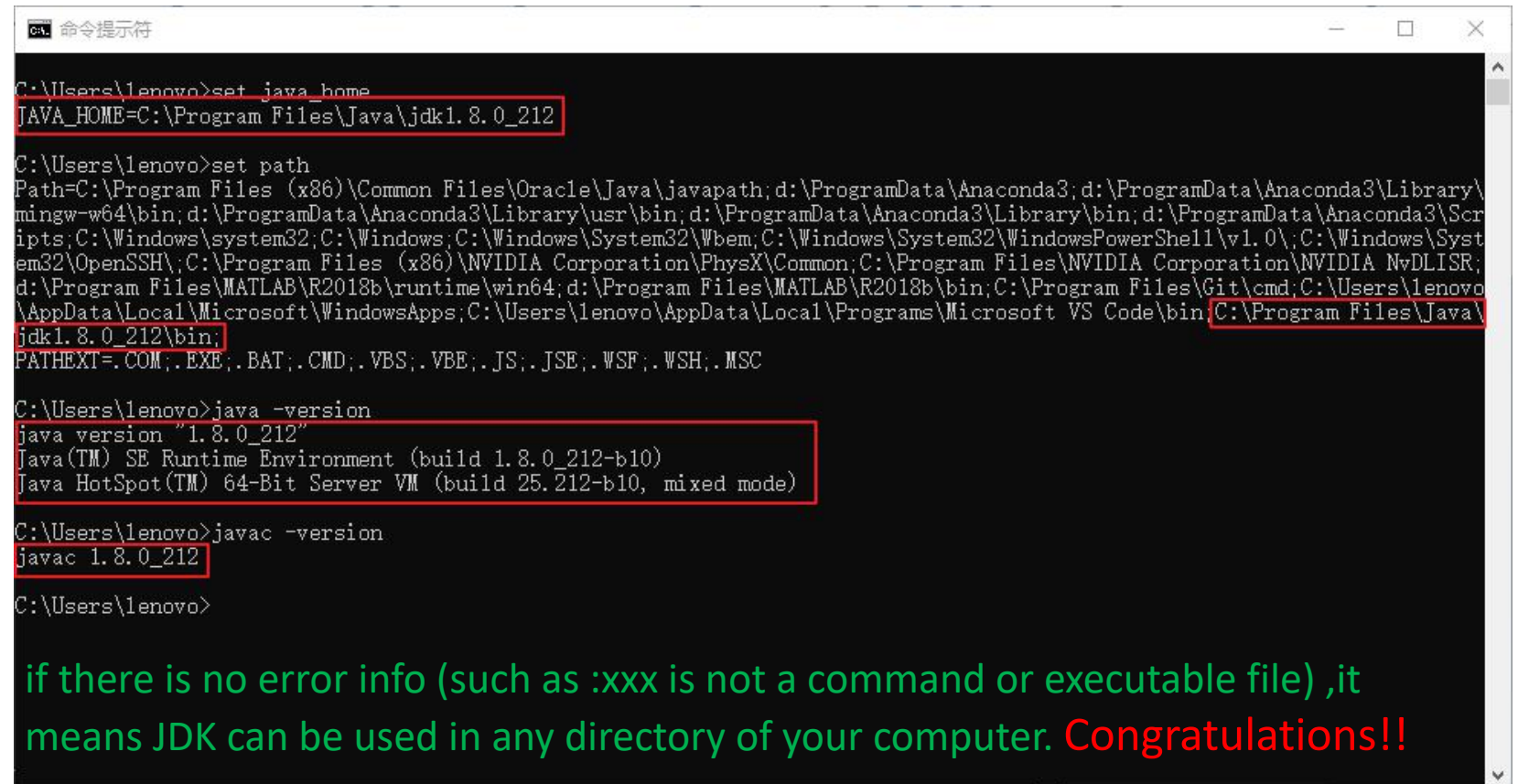
## 1.4 Configuring JDK

The result should be as shown below. Click **OK** to close the environment variables panel.



In order to test the above configuration, open a command prompt by clicking on the Windows Start button and typing “**cmd**” followed by pressing ENTER. A new command prompt should open in which the following commands can be entered to verify the environment variable and the installed Java version:

```
set java_home  
set path  
java -version  
javac -version
```



if there is no error info (such as :xxx is not a command or executable file) ,it means JDK can be used in any directory of your computer. **Congratulations!!**





## **2 Editing, Compiling and Running Java programs**

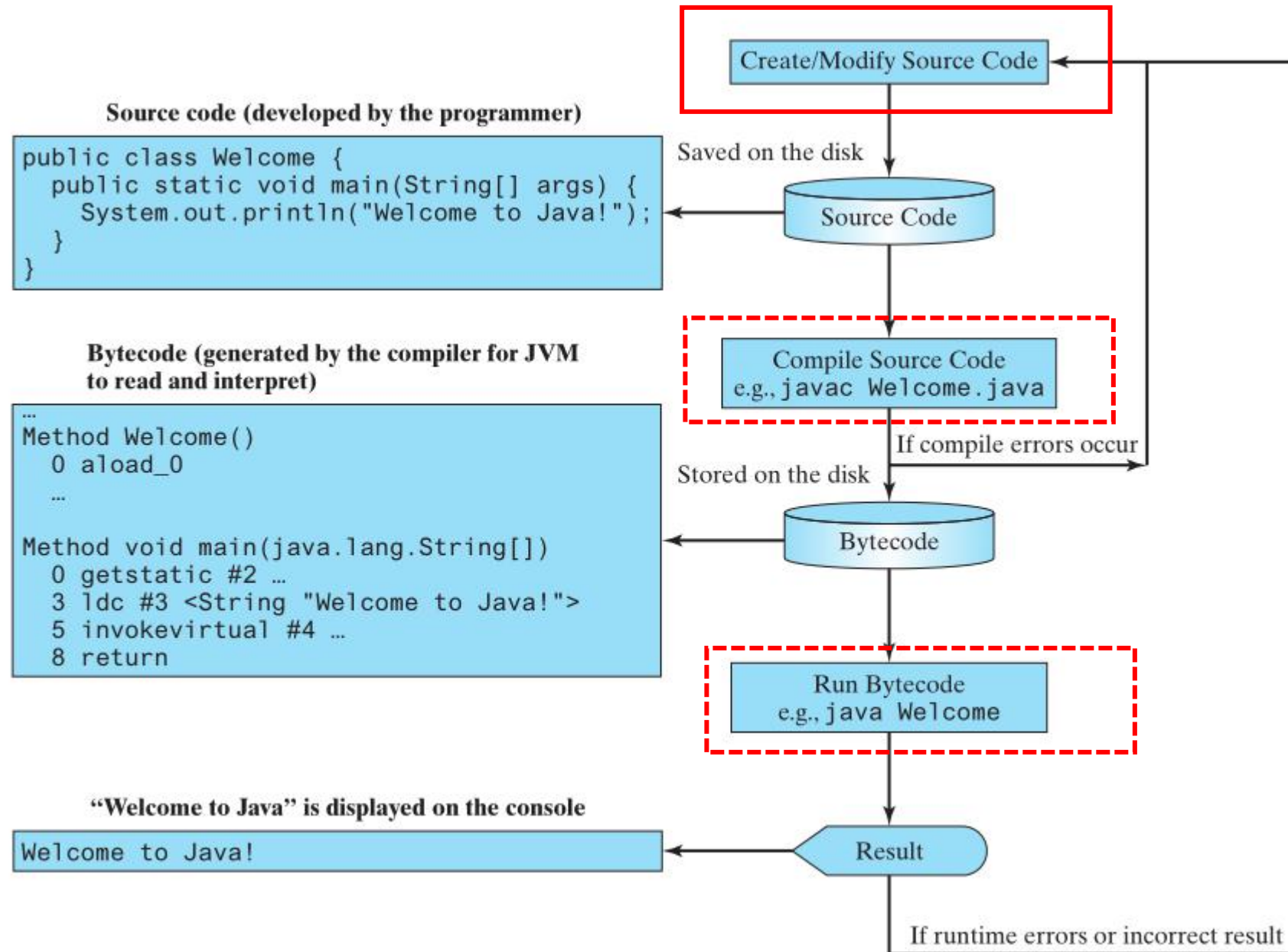
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**2.1 Editing Java Programs**

**2.2 Compiling Java Programs**

**2.3 Running Java Programs**

## 2. Editing, Compiling and Running Java programs



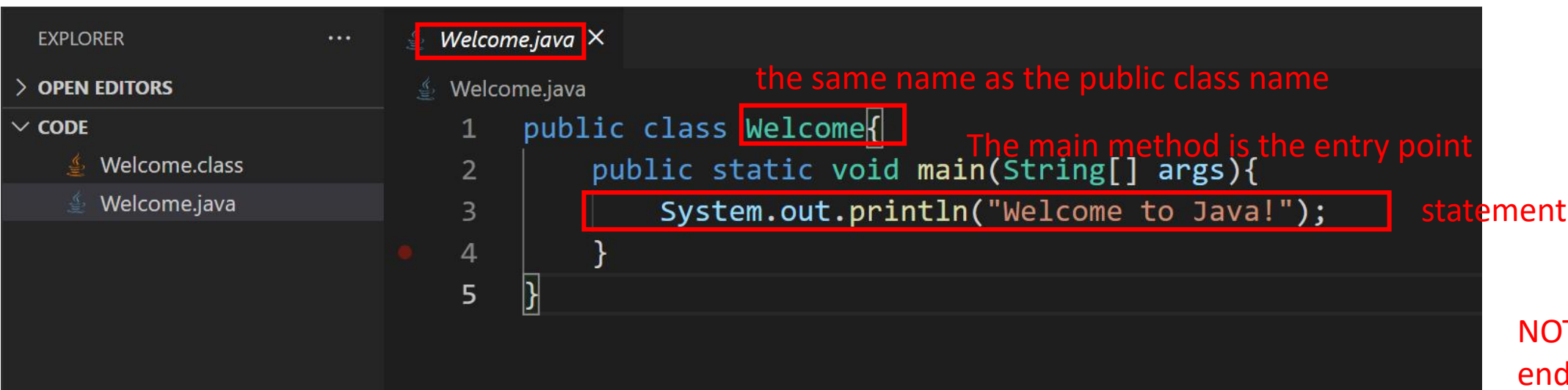


## 2.1 Editing Java Programs

Editor:VSCODE

Download url: <https://code.visualstudio.com/>

Using **Notepad++** to create the Java source-code file, as following shown.



```
EXPLORER
> OPEN EDITORS
CODE
Welcome.class
Welcome.java

Welcome.java
1 public class Welcome{
2     public static void main(String[] args){
3         System.out.println("Welcome to Java!");
4     }
5 }
```

the same name as the public class name

The main method is the entry point

statement

NOTE:The source file must end with the extension **.java** and must have the same exact name as the public class name!!

## 2.2 Compiling Java Programs

Compile Source Code

*javac Welcome.java*

```
命令提示符
'rm' 不是内部或外部命令，也不是可运行的程序
或批处理文件。

F:\JAVA_B\exercise>del Welcome.class

F:\JAVA_B\exercise>dir
驱动器 F 中的卷没有标签。
卷的序列号是 0005-79AF

F:\JAVA_B\exercise 的目录
2019/07/08  20:33    <DIR>        .
2019/07/08  20:33    <DIR>        ..
2019/06/12  19:20    <DIR>        SIS
2019/06/12  17:18             417 Test.class
2019/06/12  17:17             147 Test.java
2019/07/08  20:30             113 Welcome.java
               3 个文件          677 字节
               3 个目录 308,487,585,792 可用字节

F:\JAVA_B\exercise>
```

```
命令提示符
3 个目录 308,487,585,792 可用字节

F:\JAVA_B\exercise>javac Welcome.java

F:\JAVA_B\exercise>dir
驱动器 F 中的卷没有标签。
卷的序列号是 0005-79AF

F:\JAVA_B\exercise 的目录
2019/07/08  20:34    <DIR>        .
2019/07/08  20:34    <DIR>        ..
2019/06/12  19:20    <DIR>        SIS
2019/06/12  17:18             417 Test.class
2019/06/12  17:17             147 Test.java
2019/07/08  20:34             424 Welcome.class
2019/07/08  20:30             113 Welcome.java
               4 个文件          1,101 字节
               3 个目录 308,487,585,792 可用字节

F:\JAVA_B\exercise>
```

## 2.3 Runing Java Programs

The following command runs the bytecode :

*java Welcome*

```
命令提示符
F:\JAVA_B\exercise>dir
驱动器 F 中的卷没有标签。
卷的序列号是 0005-79AF

F:\JAVA_B\exercise 的目录
2019/07/08  20:34    <DIR>          .
2019/07/08  20:34    <DIR>          ..
2019/06/12  19:20    <DIR>          SIS
2019/06/12  17:18                417 Test.class
2019/06/12  17:17                147 Test.java
2019/07/08  20:34                424 Welcome.class
2019/07/08  20:30                113 Welcome.java
               4 个文件                1,101 字节
               3 个目录 308,487,585,792 可用字节

F:\JAVA_B\exercise>java Welcome
Welcome to Java!

F:\JAVA_B\exercise>
```

# 3 Exercises

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Complete the exercises in the **2021S-Java-A-Lab-1.pdf**.



**THANK YOU**

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