

Setting up Java 21 (MacOS)



Setting up Java 21

1. Check Java Version

java --version

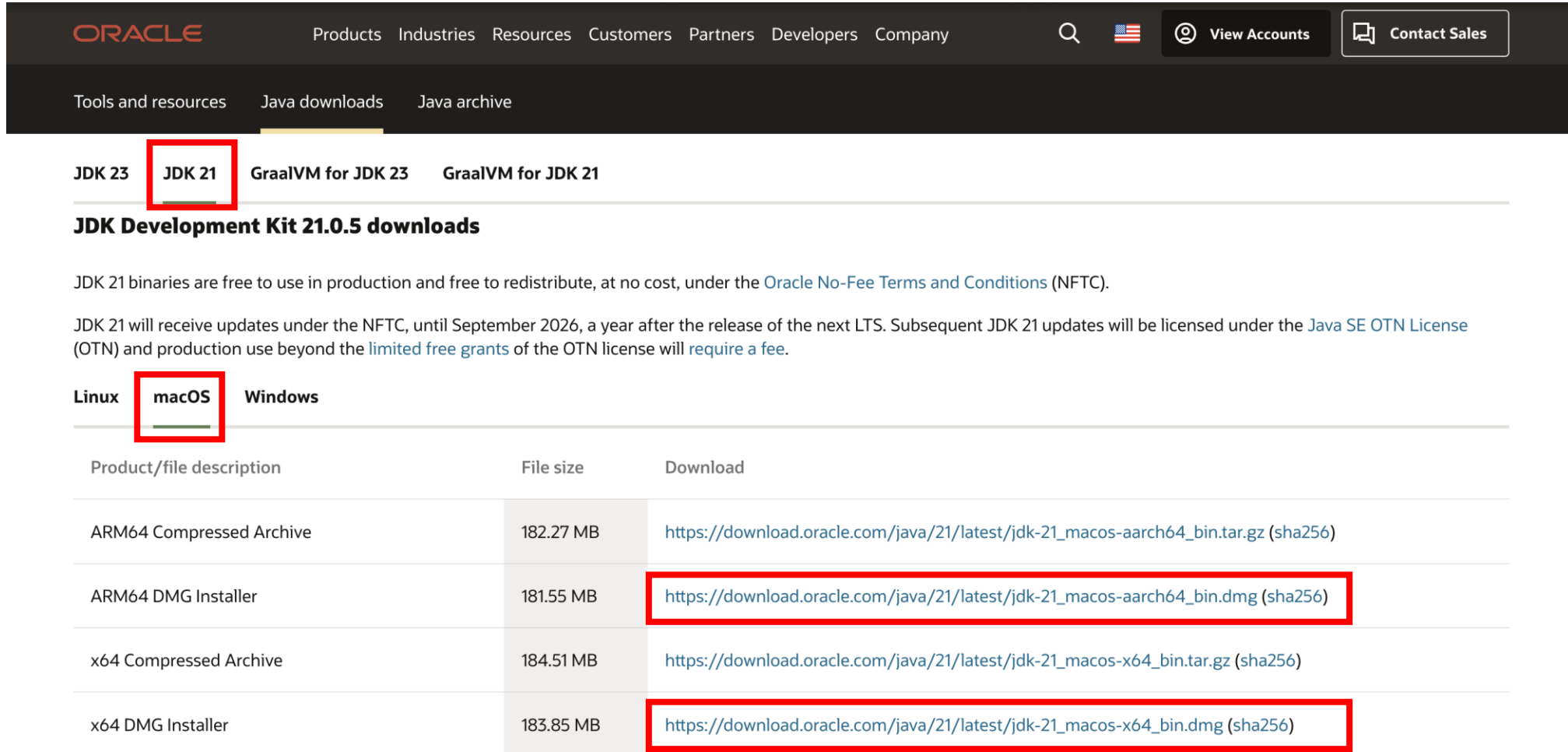
If Java is already installed, the command will display the version of Java you have. If not, proceed with next installation steps.

```
java --version
openjdk 21.0.2 2024-01-16 LTS
OpenJDK Runtime Environment Temurin-21.0.2+13 (build 21.0.2+13-LTS)
OpenJDK 64-Bit Server VM Temurin-21.0.2+13 (build 21.0.2+13-LTS, mixed
mode)
```

Setting up Java 21

2. Download Java Visit the official Oracle Java website

<https://www.oracle.com/java/technologies/downloads>

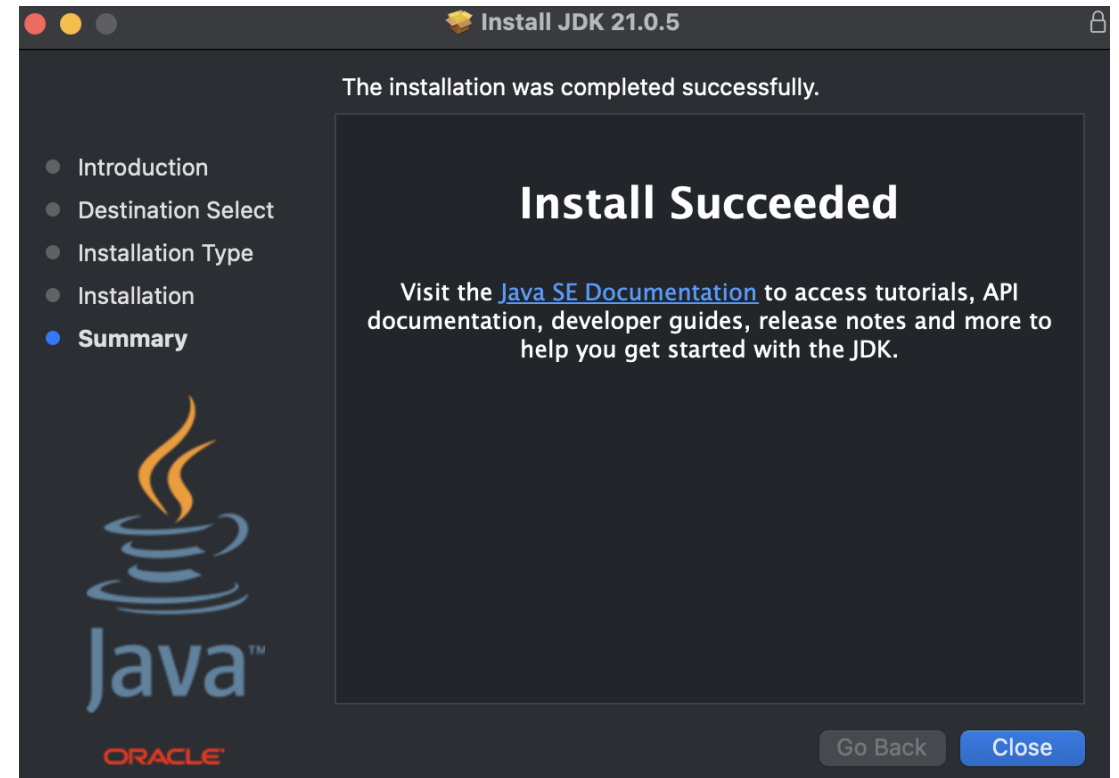


The screenshot shows the Oracle Java Downloads page. The 'JDK 21' tab is selected in the top navigation bar. Below it, the 'JDK Development Kit 21.0.5 downloads' section is visible. The 'macOS' tab is selected in the operating system navigation bar. A table lists four download options for macOS, with the DMG installer links highlighted by red boxes.

Product/file description	File size	Download
ARM64 Compressed Archive	182.27 MB	https://download.oracle.com/java/21/latest/jdk-21_macos-aarch64_bin.tar.gz (sha256)
ARM64 DMG Installer	181.55 MB	https://download.oracle.com/java/21/latest/jdk-21_macos-aarch64_bin.dmg (sha256)
x64 Compressed Archive	184.51 MB	https://download.oracle.com/java/21/latest/jdk-21_macos-x64_bin.tar.gz (sha256)
x64 DMG Installer	183.85 MB	https://download.oracle.com/java/21/latest/jdk-21_macos-x64_bin.dmg (sha256)

Setting up Java 21

3. Install downloaded DMG installer

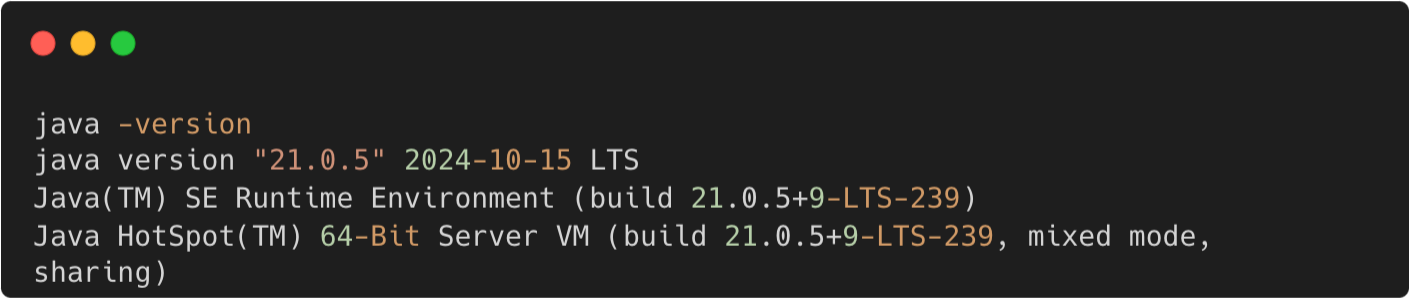


Setting up Java 21

4. Verify Installation

java -version

After installation, open Terminal again and enter the following command to verify that Java is installed correctly:



```
java -version
java version "21.0.5" 2024-10-15 LTS
Java(TM) SE Runtime Environment (build 21.0.5+9-LTS-239)
Java HotSpot(TM) 64-Bit Server VM (build 21.0.5+9-LTS-239, mixed mode,
sharing)
```

Setting up Java 21 (Windows)



Setting up Java 21

1. Check Java Version

java --version

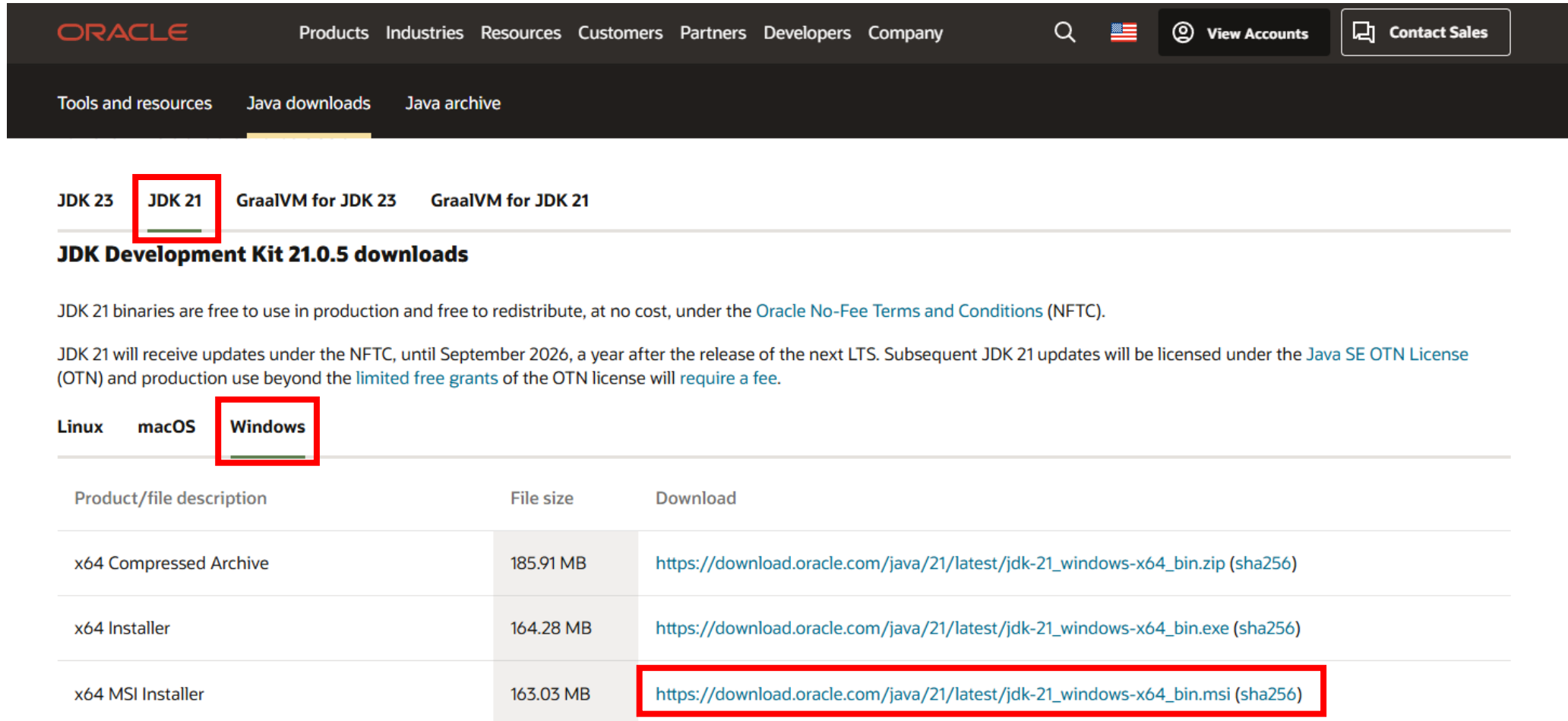
If Java is already installed, the command will display the version of Java you have. If not, proceed with next installation steps.

```
java --version
openjdk 21.0.2 2024-01-16 LTS
OpenJDK Runtime Environment Temurin-21.0.2+13 (build 21.0.2+13-LTS)
OpenJDK 64-Bit Server VM Temurin-21.0.2+13 (build 21.0.2+13-LTS, mixed
mode)
```

Setting up Java 21

2. Download Java Visit the official Oracle Java website

<https://www.oracle.com/java/technologies/downloads>



The screenshot shows the Oracle Java Downloads page. The 'JDK 21' tab is selected, and the 'Windows' operating system is chosen. A table lists three download options for x64: a compressed archive, an installer, and an MSI installer. The MSI installer download link is highlighted with a red box.

Product/file description	File size	Download
x64 Compressed Archive	185.91 MB	https://download.oracle.com/java/21/latest/jdk-21_windows-x64_bin.zip (sha256)
x64 Installer	164.28 MB	https://download.oracle.com/java/21/latest/jdk-21_windows-x64_bin.exe (sha256)
x64 MSI Installer	163.03 MB	https://download.oracle.com/java/21/latest/jdk-21_windows-x64_bin.msi (sha256)

Setting up Java 21

3. Install downloaded MSI installer

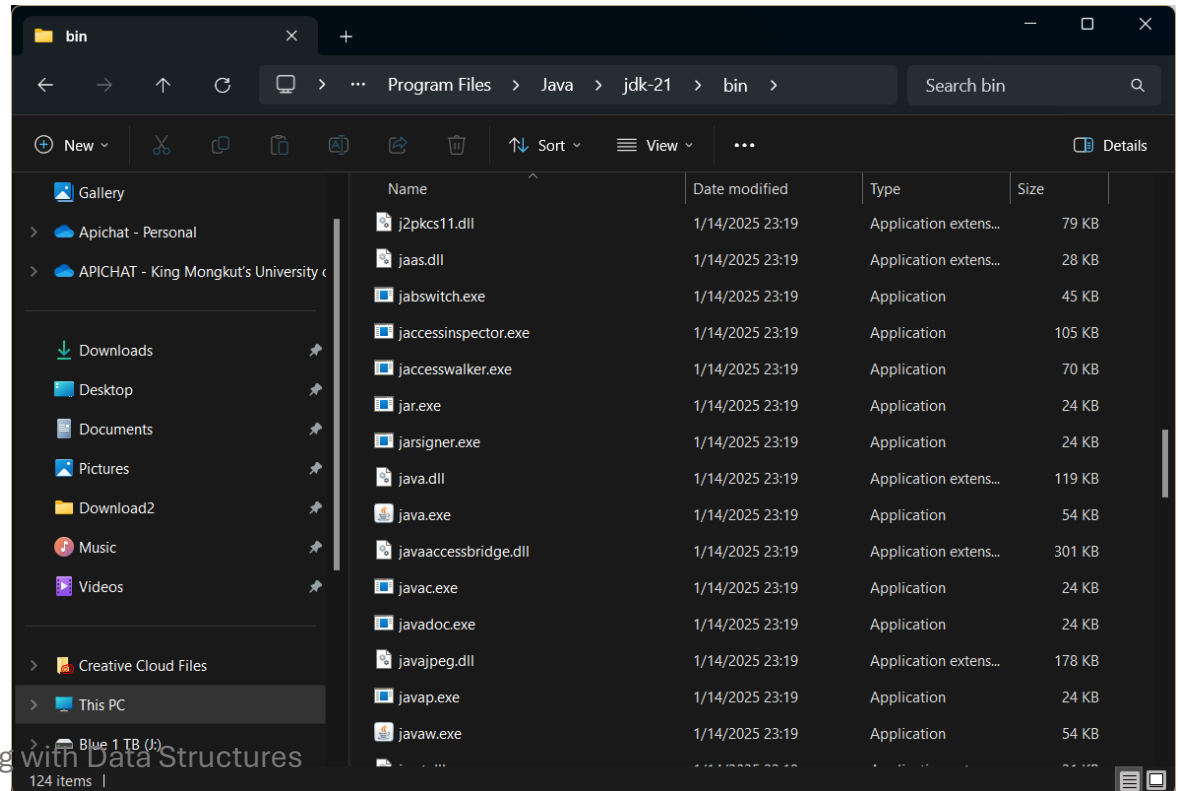
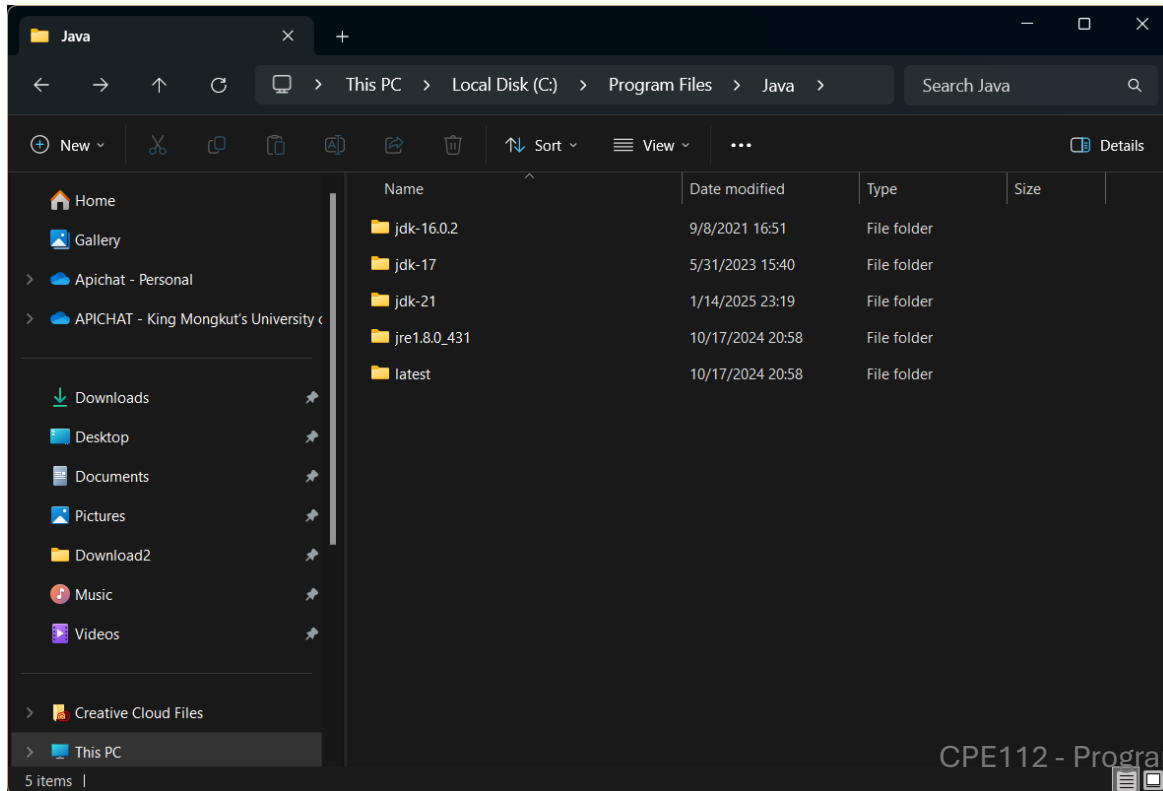


Setting up Java 21

4. Configure Environment Variables

After the installation is complete, we have to configure environment variables to notify the system about the directory in which JDK files are located. Proceed to

C:\Program Files\Java\jdk-21\bin

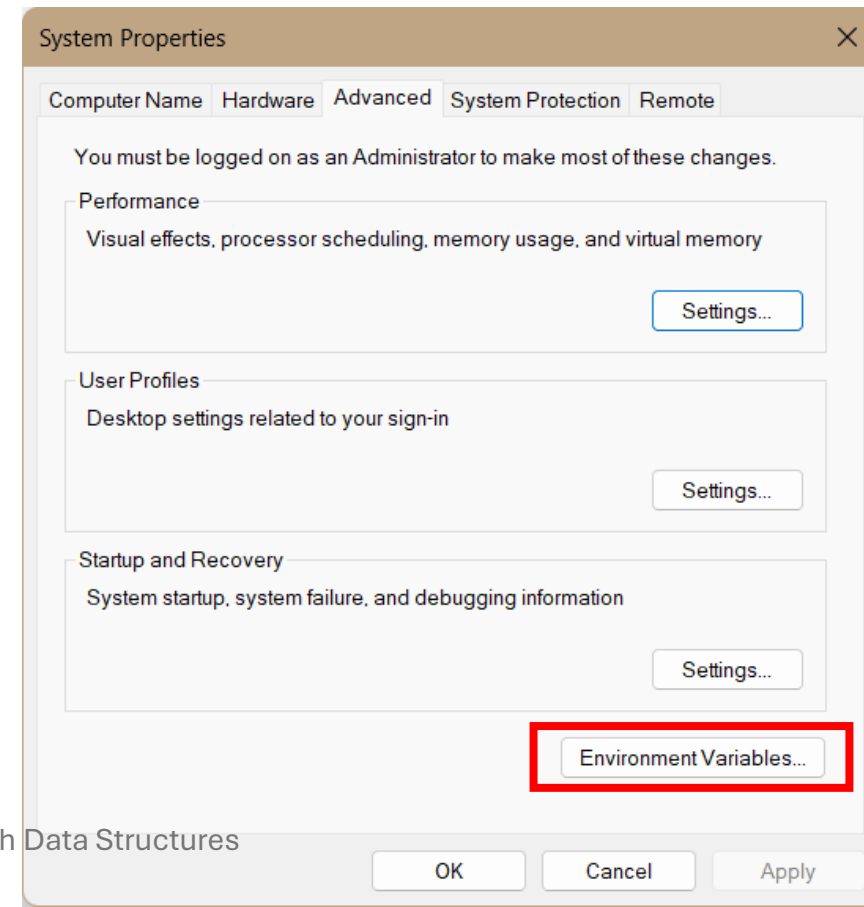
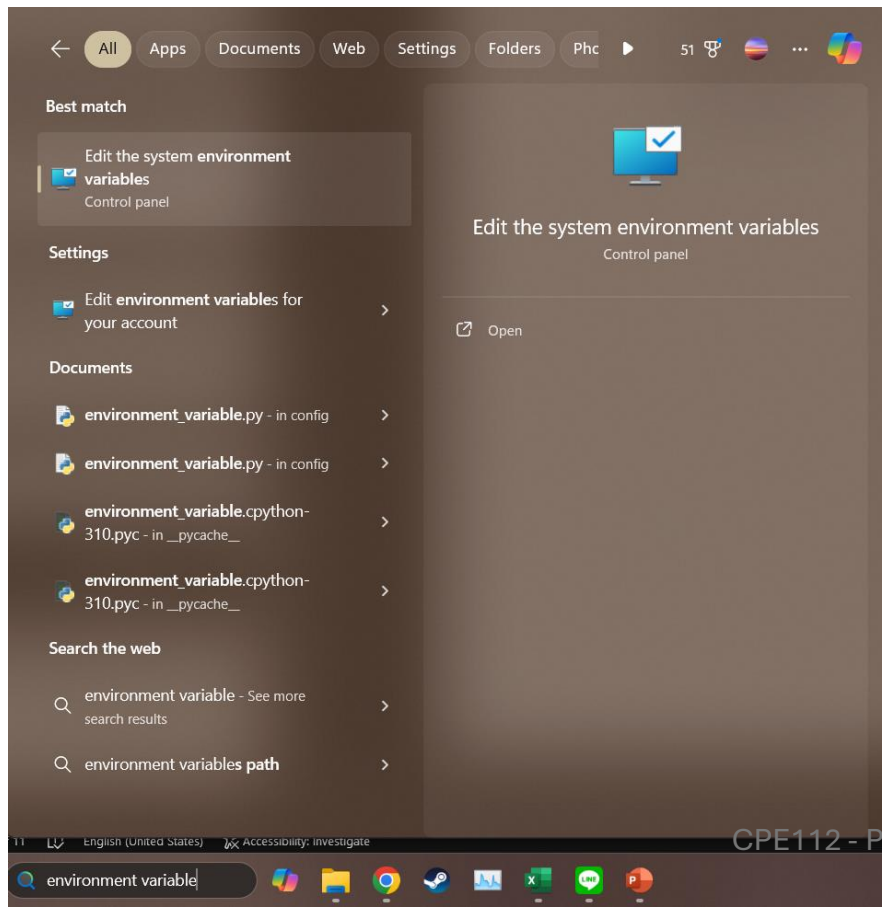


Setting up Java 21

4. Configure Environment Variables

To set the Environment Variables, you need to search Environment Variables in the Taskbar and click on

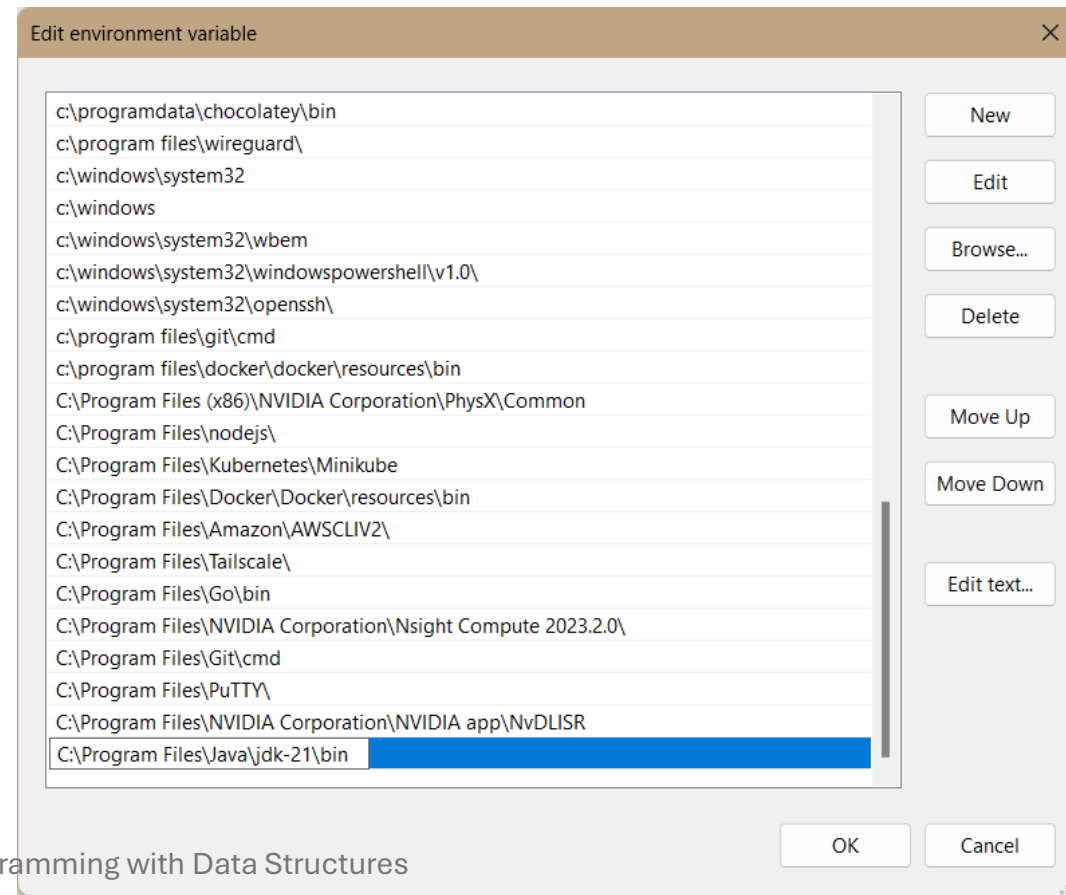
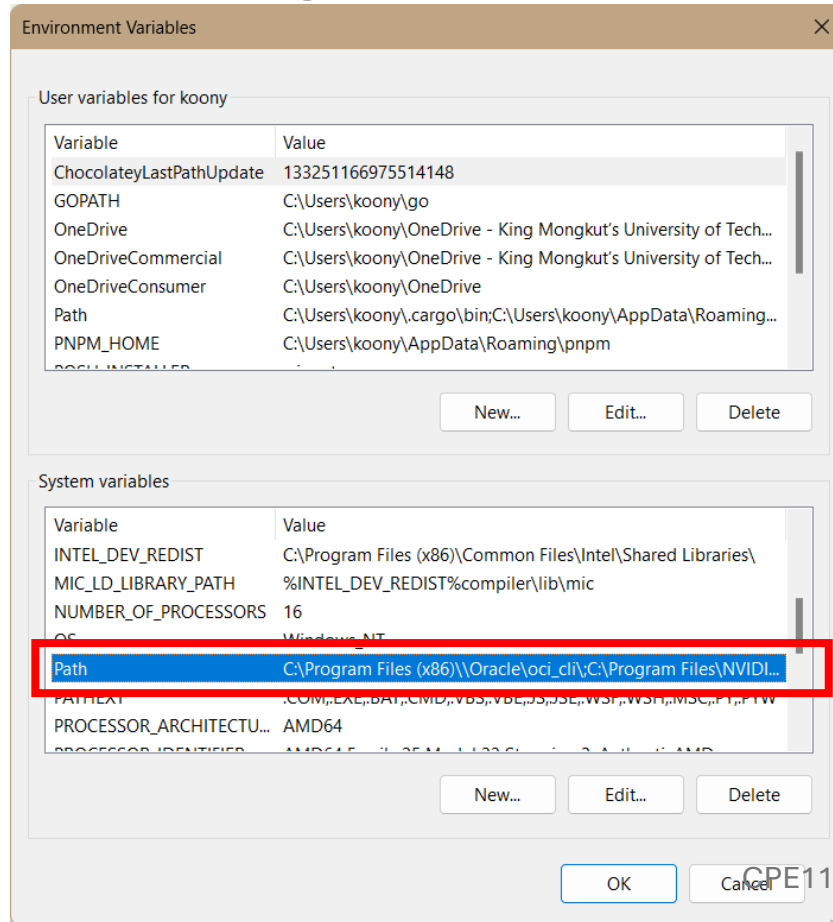
“ Edit the system environment variables ”



Setting up Java 21

4. Configure Environment Variables

Under System variables, select the **“Path”** variable and click on **“Edit”**. Click on **“New”** then paste the Path Address i.e. **C:\Program Files\Java\jdk-21\bin**. Click on **“OK”**.

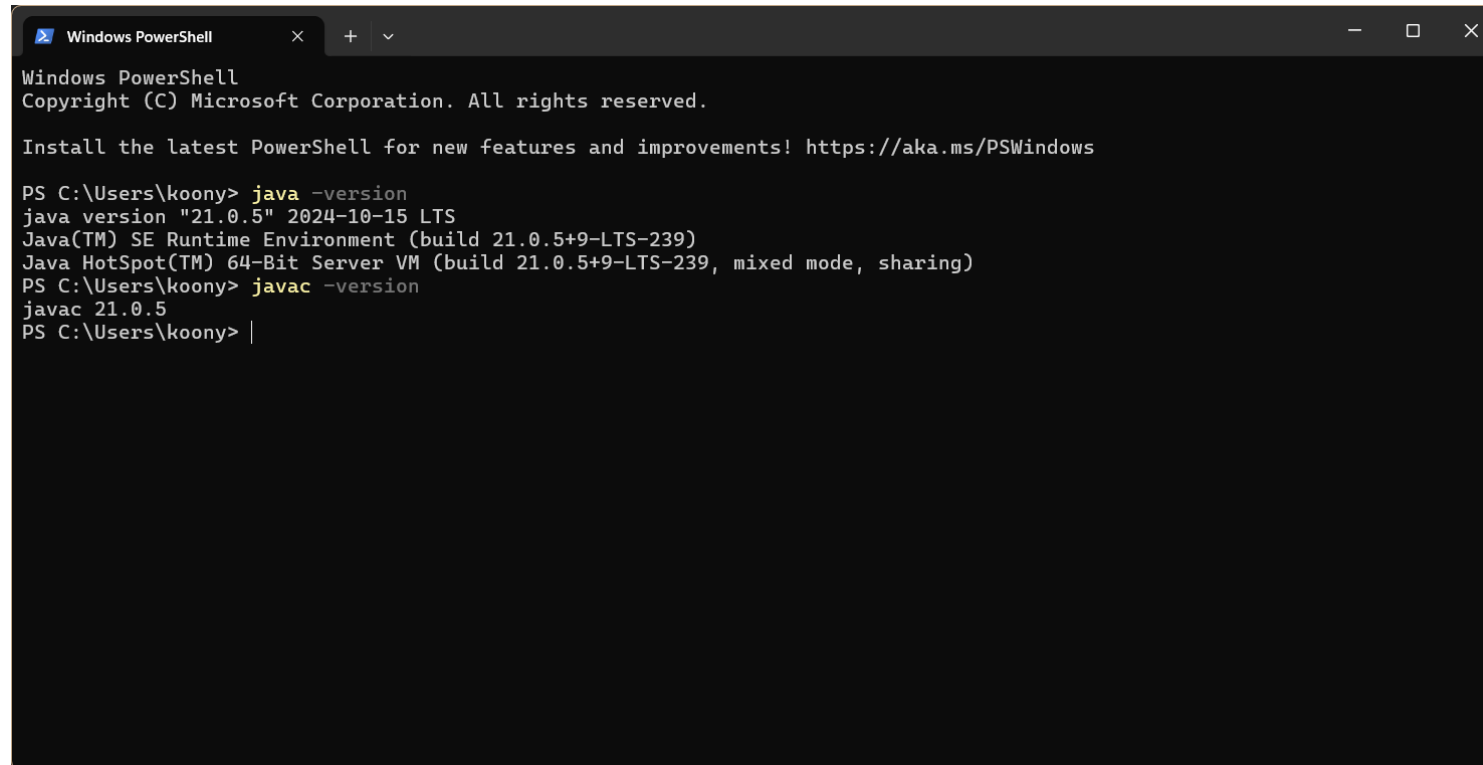


Setting up Java 21

5. Verify Installation

java -version

After installation, open Terminal again and enter the following command to verify that Java is installed correctly:



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\koony> java -version
java version "21.0.5" 2024-10-15 LTS
Java(TM) SE Runtime Environment (build 21.0.5+9-LTS-239)
Java HotSpot(TM) 64-Bit Server VM (build 21.0.5+9-LTS-239, mixed mode, sharing)
PS C:\Users\koony> javac -version
javac 21.0.5
PS C:\Users\koony> |
```

Basic Java for Data Structure

Hello World

@ helloWorld.java

```
public class helloWorld {  
    public static void main(String[] args){  
        System.out.print("Hello World");  
    }  
}
```

Hello World

@ helloWorld.java

```
public class helloWorld {  
    public static void main(String[] args){  
        System.out.print("Hello World");  
    }  
}
```

Compiling

```
> javac helloWorld.java
```

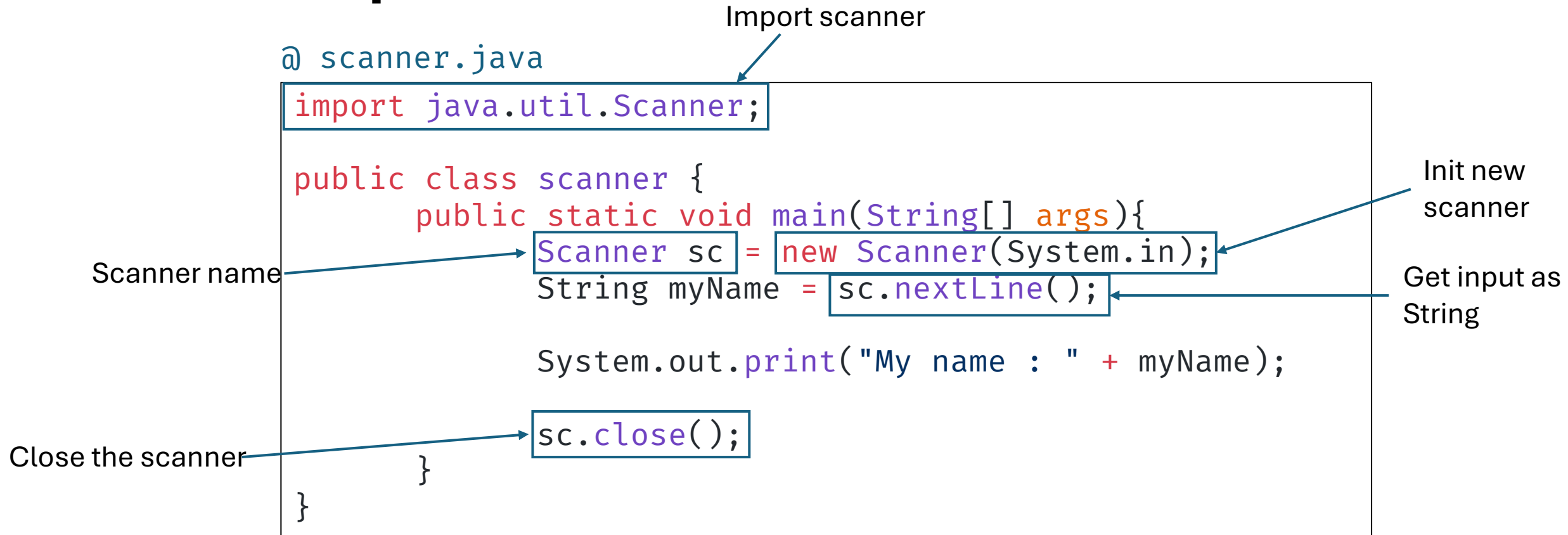
You'll get

- helloWorld.class

Running

```
> java helloWorld
```


Get User Input



Compiling & Running

```
> javac scanner.java && java scanner
KMUTT
My name : KMUTT%
```

Get User Input

Declare function

@ scanner.java

```
import java.util.Scanner;

public class scanner {
    static void yourName(String name){
        System.out.println("My name : " + name);
    }
    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        int n = Integer.parseInt(sc.nextLine());

        for(int i = 0; i < n; i++){
            yourName(sc.nextLine());
        }

        sc.close();
    }
}
```

*try to use

int n = sc.nextInt();



Get User Input

Declare function

@ scanner.java

```
import java.util.Scanner;

public class scanner {
    static void yourName(String name){
        System.out.println("My name : " + name);
    }
    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        int n = Integer.parseInt(sc.nextLine());

        for(int i = 0; i < n; i++){
            yourName(sc.nextLine());
        }

        sc.close();
    }
}
```

*try to use

int n = sc.nextInt();

Input Types

Method	Description
<code>nextBoolean()</code>	Reads a boolean value from the user
<code>nextByte()</code>	Reads a byte value from the user
<code>nextDouble()</code>	Reads a double value from the user
<code>nextFloat()</code>	Reads a float value from the user
<code>nextInt()</code>	Reads a int value from the user
<code>nextLine()</code>	Reads a String value from the user
<code>nextLong()</code>	Reads a long value from the user
<code>nextShort()</code>	Reads a short value from the user

Array

@array.java

```
Scanner sc = new Scanner(System.in);

int n = Integer.parseInt(sc.nextLine());
String[] nameList = new String[n];

for(int i = 0; i < n; i++){
    nameList[i] = sc.nextLine();
}

for(String name : nameList){
    System.out.println(name);
}

sc.close();
```

Declare array



Enhanced for loop

