

Tutorial For Basic Use of IntelliJ IDEA and Input&Output

Based on the tutorial of "2020S-Java-A" designed by teaching group in SUSTech

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Objectives

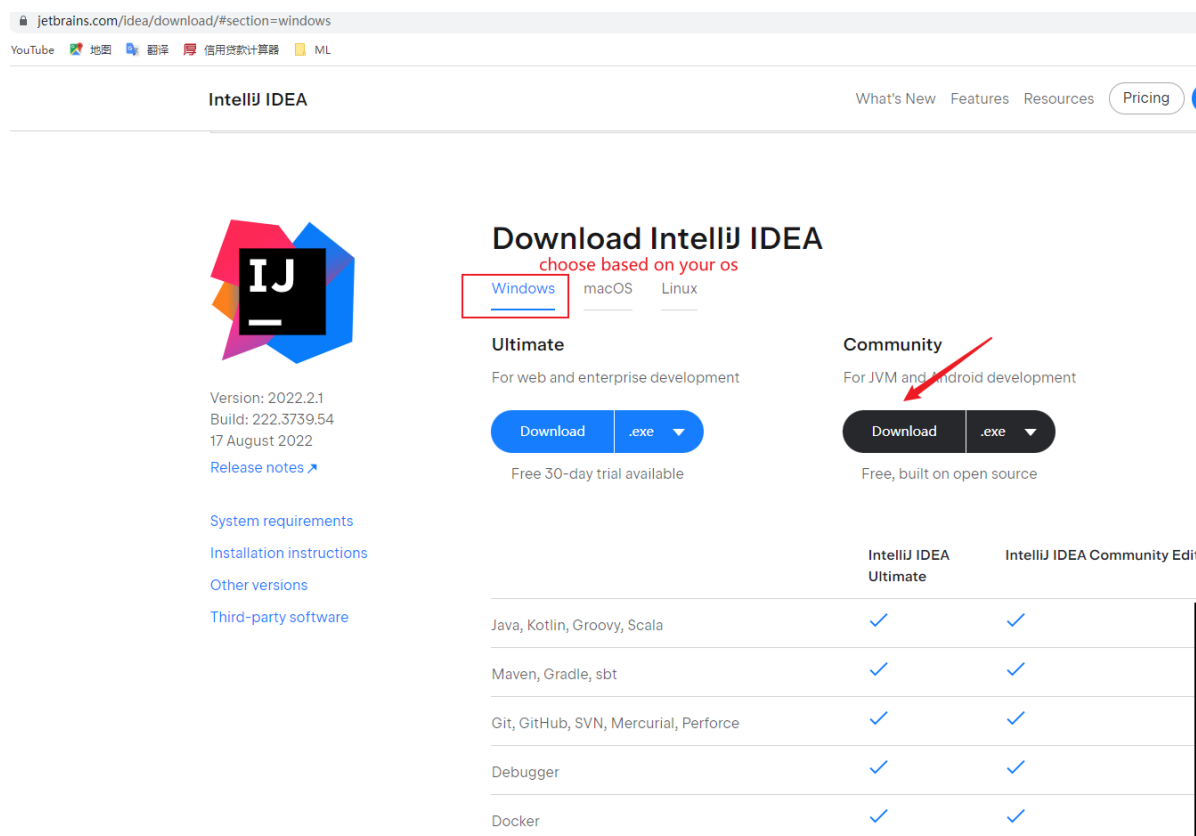
1. Learn how to use an **Integrated Development Environment (IDE)** in writing JAVA programs
2. Practice using input and output statements.
3. Practice storing values with primitive types
4. Recommended naming rules for Java exercises

1 Software Installation

In this course, we will use IDEA as our reference IDE.

1.1 DownLoading IDEA

You can download IDEA (`community version`) at the following link: <https://www.jetbrains.com/idea/download/>



jetbrains.com/idea/download/#section=windows

IntelliJ IDEA

What's New Features Resources Pricing

Download IntelliJ IDEA
choose based on your os

Windows macOS Linux

Ultimate
For web and enterprise development
Download .exe
Free 30-day trial available

Community
For JVM and Android development
Download .exe
Free, built on open source

| | IntelliJ IDEA Ultimate | IntelliJ IDEA Community Edit |
|---------------------------------------|------------------------|------------------------------|
| Java, Kotlin, Groovy, Scala | ✓ | ✓ |
| Maven, Gradle, sbt | ✓ | ✓ |
| Git, GitHub, SVN, Mercurial, Perforce | ✓ | ✓ |
| Debugger | ✓ | ✓ |
| Docker | ✓ | ✓ |

The idea installation package downloaded looks like this:



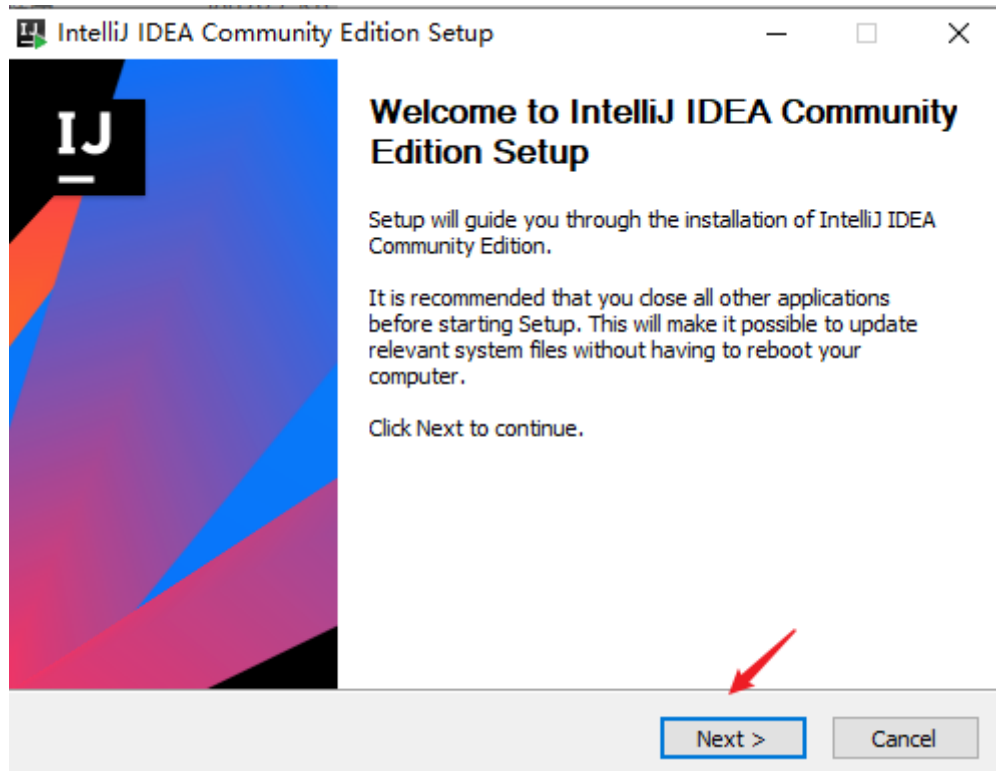
idealC-2022.2.1.exe

2022-09-12 18:36 599.28MB

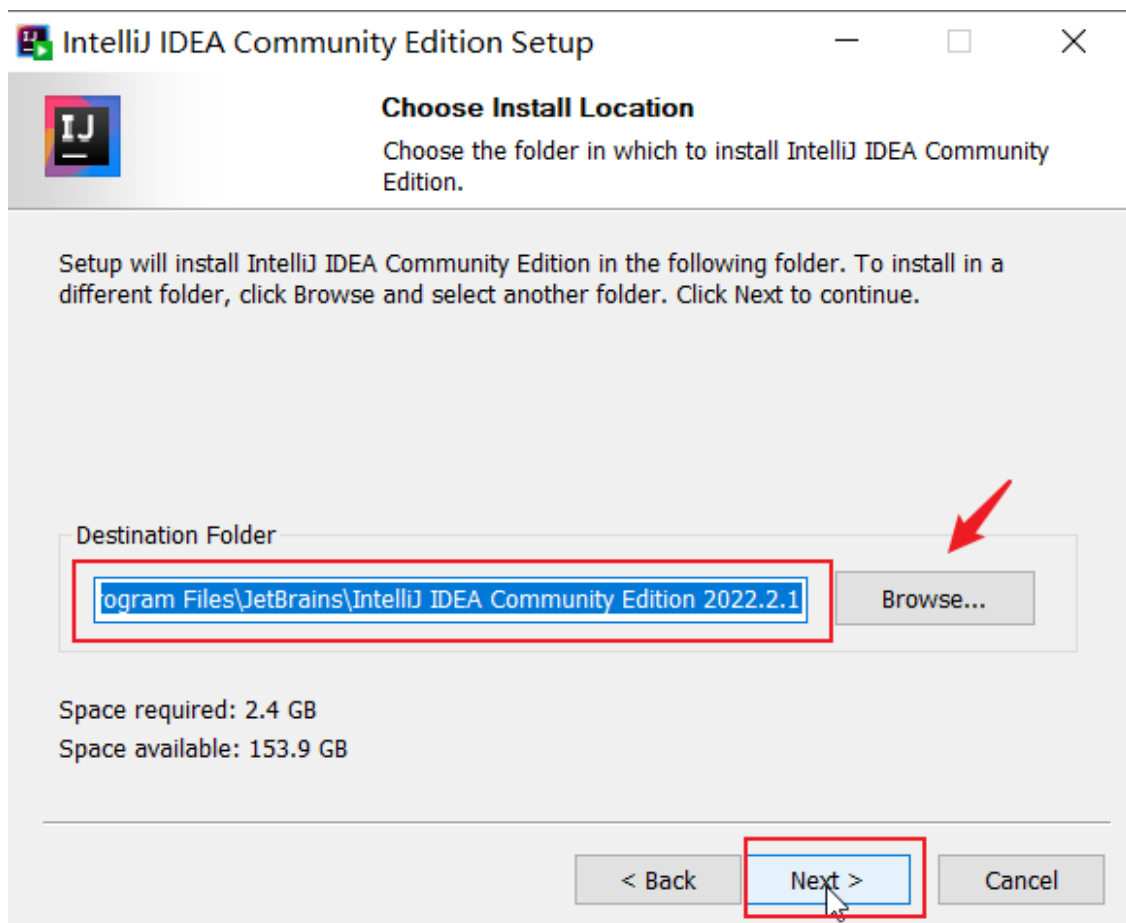


1.2 Installing IDEA

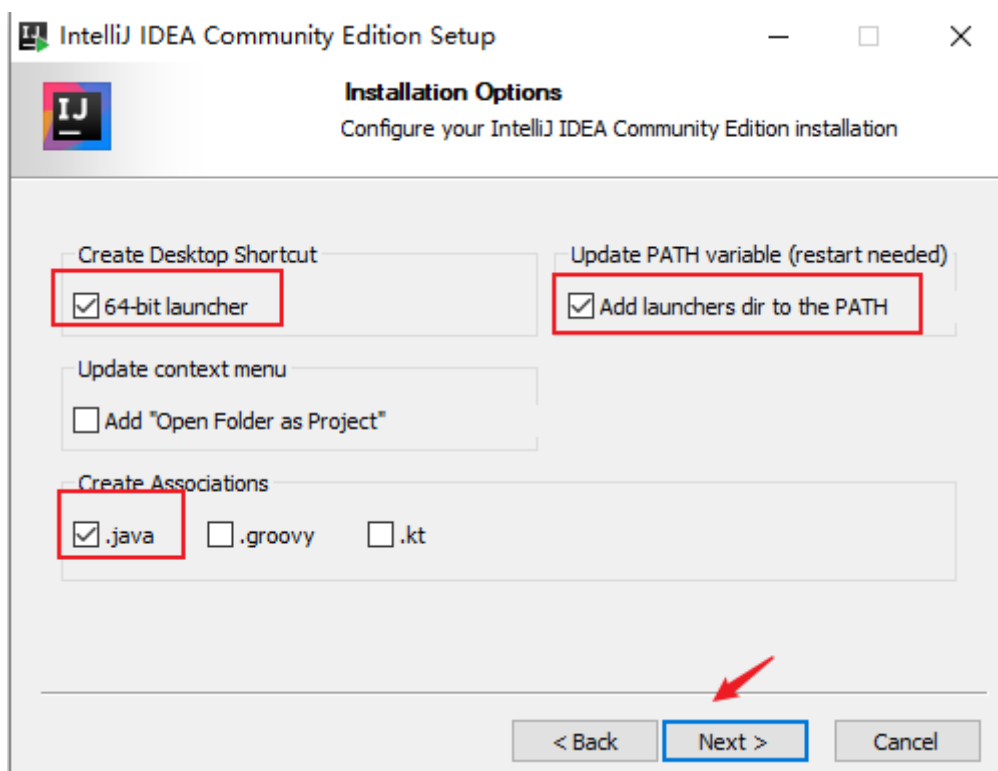
- Once the download is complete, locate the `ideaIC-2022.2.1.exe` file and double-click to run the installer.



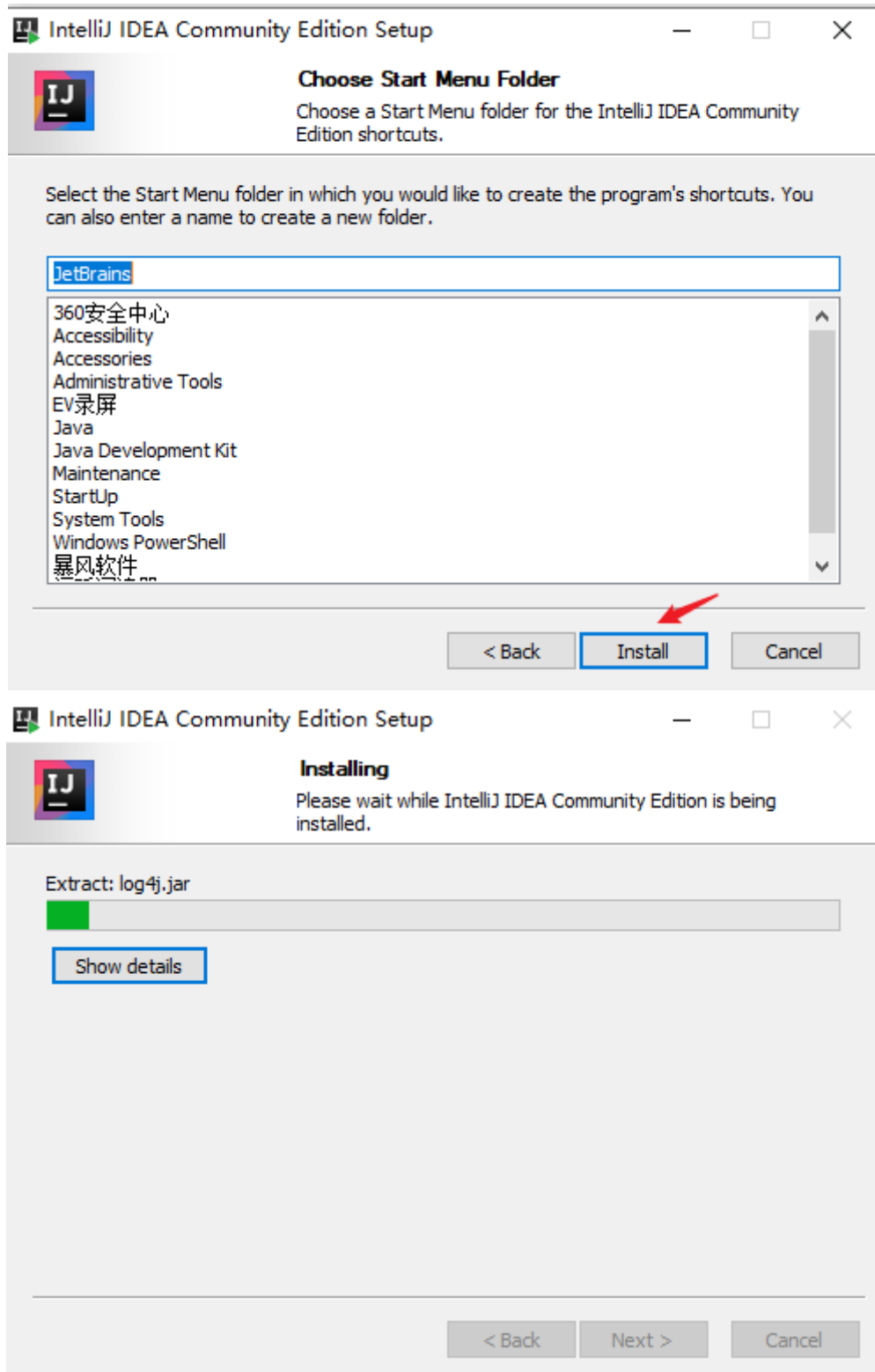
- Click Next and on the following screen optionally change the installation location by clicking on the `Browse...` button. In this example the default install location was kept.



- Configure the IDEA installation properties as shown below.

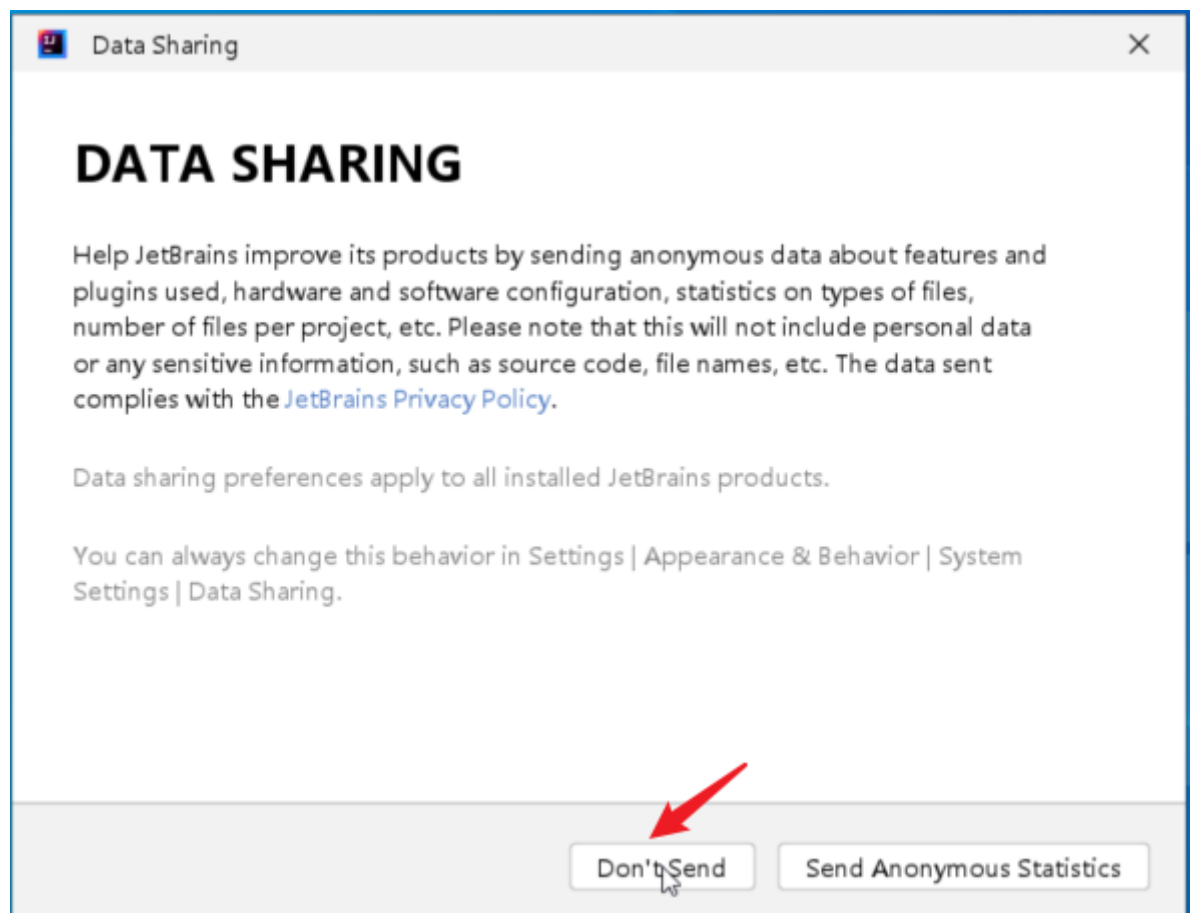
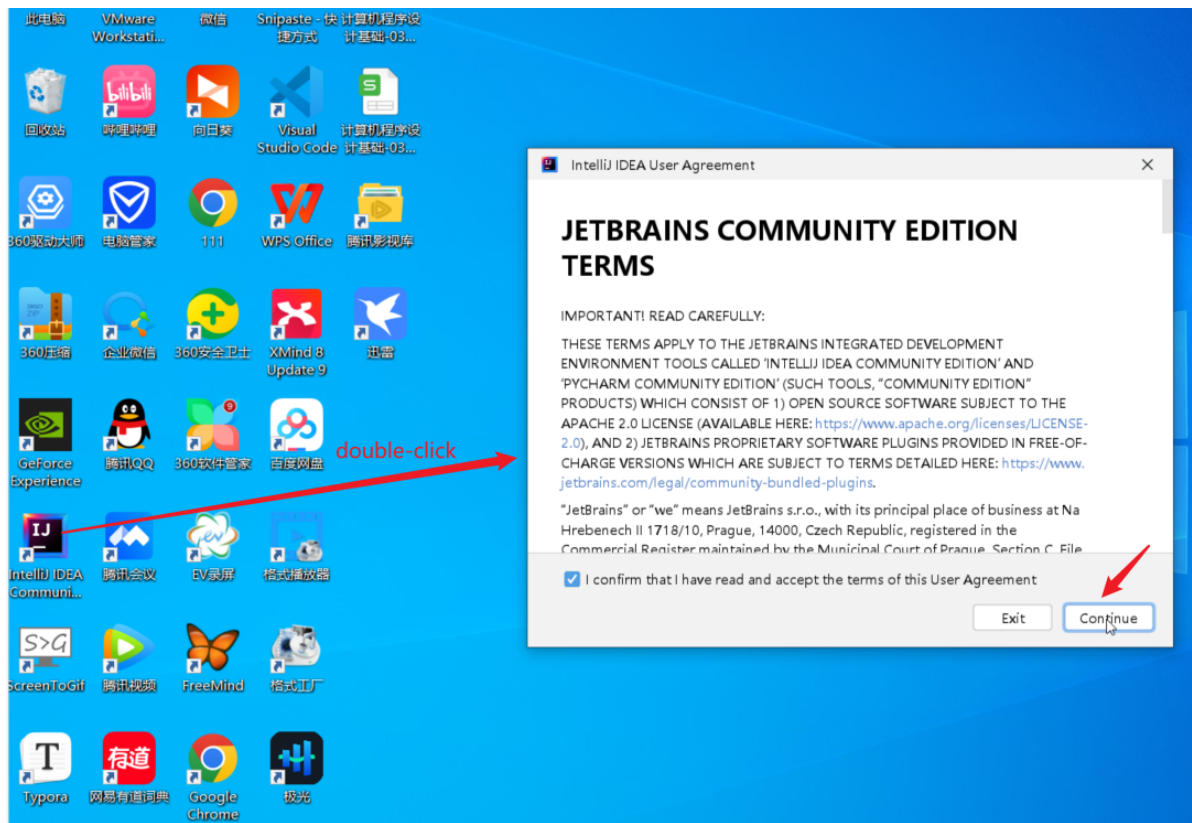


- Choose Start Menu Folder and installing

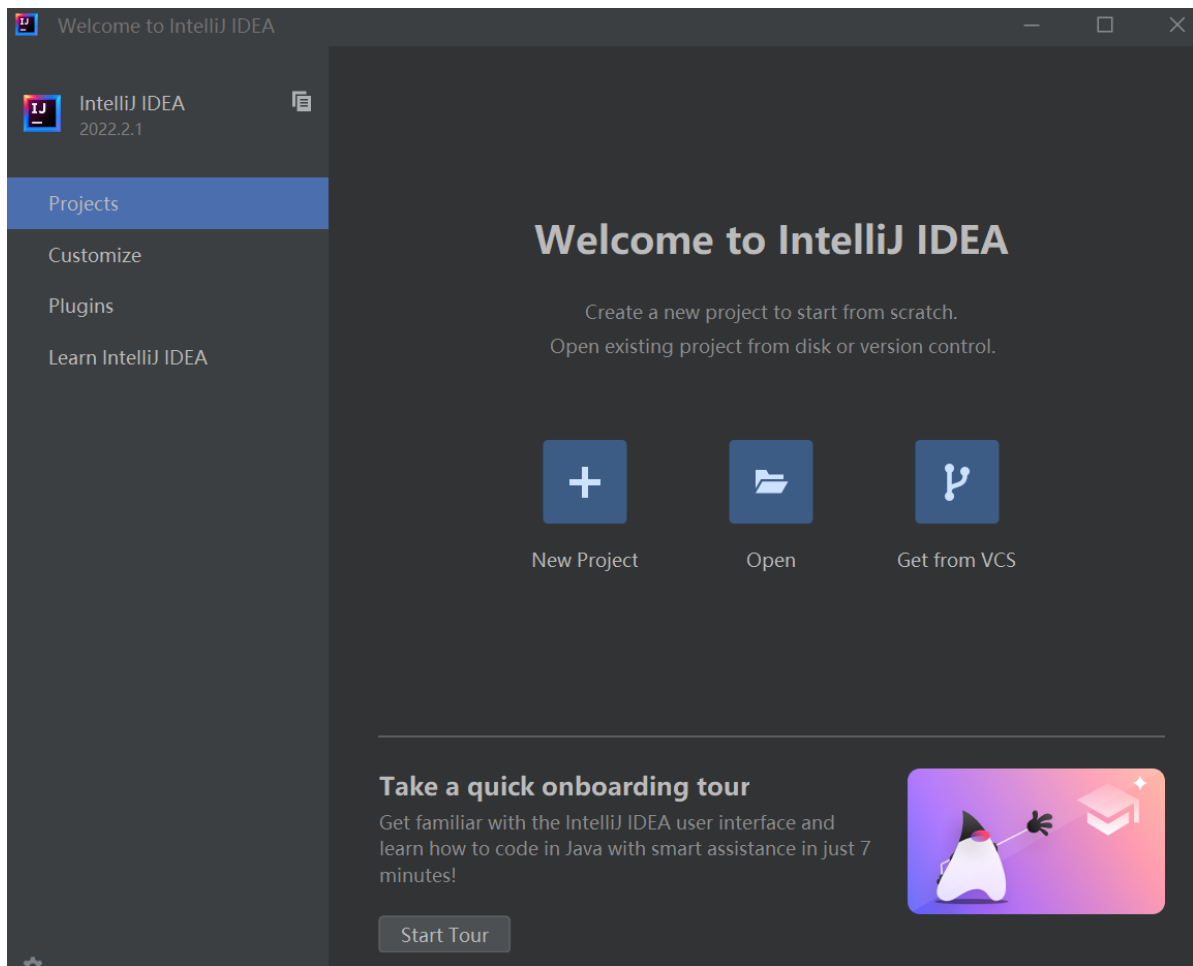


2 Create a new Java project

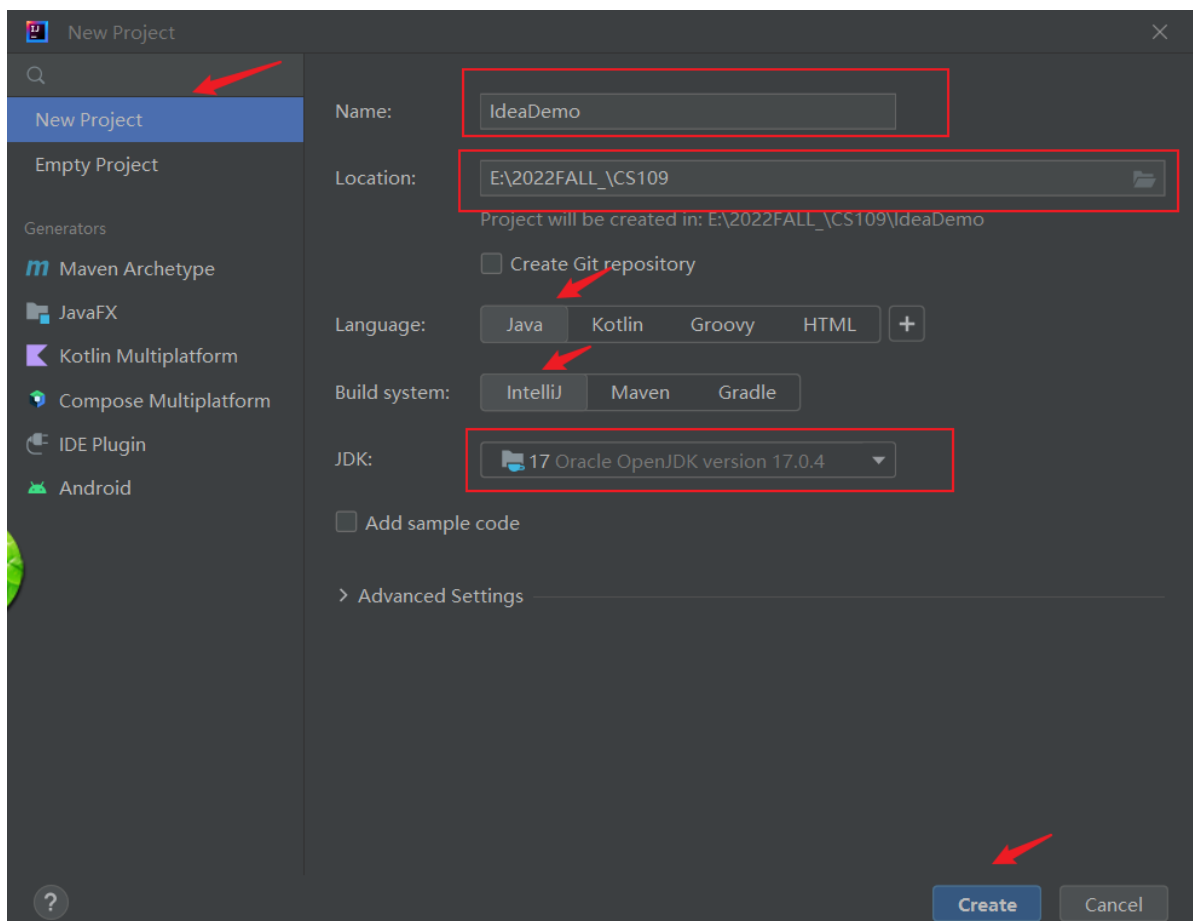
2.1 Launch IntelliJ IDEA



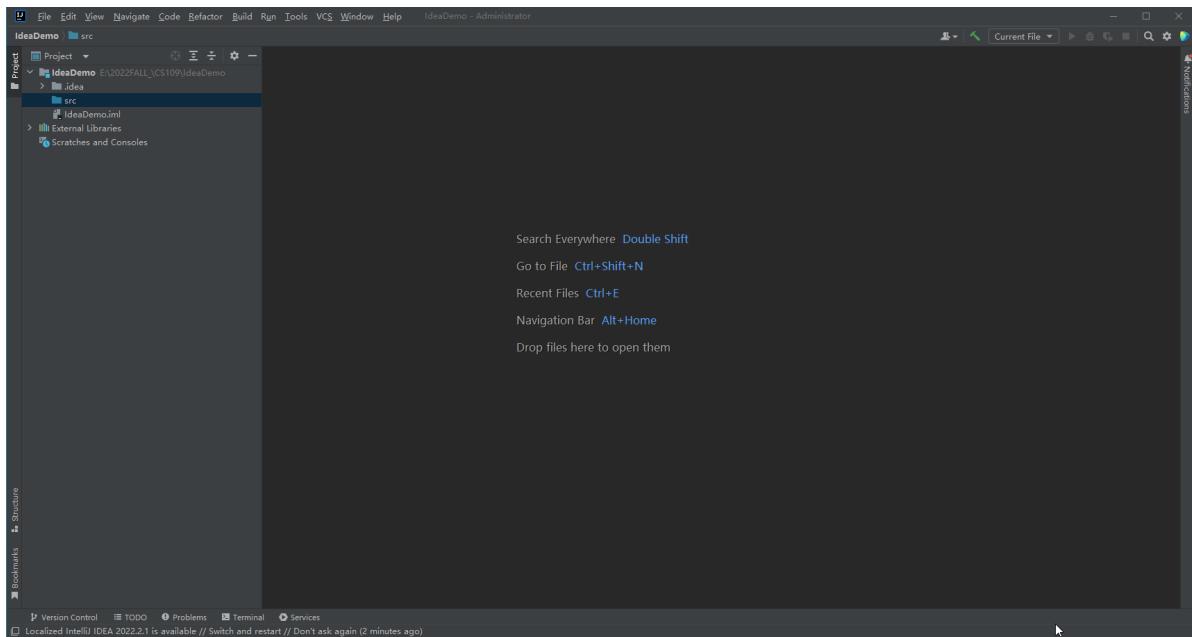
If the Welcome screen opens, click `Create New Project`. Otherwise, from the main menu, select `File | New | Project`.



To create a new java program, click **New Project**. Set project name and location. This is where you want to put all your project files. Make sure that the Project SDK at the top is set. Then press "Create" with the default setting.

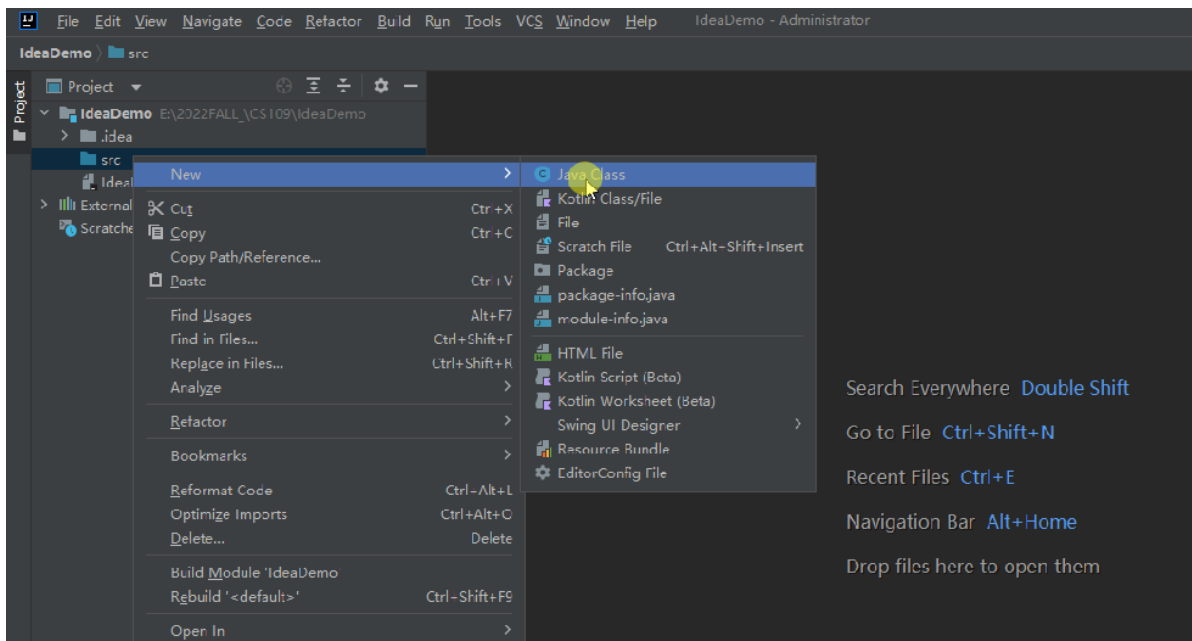


The project should appear and look like follows:

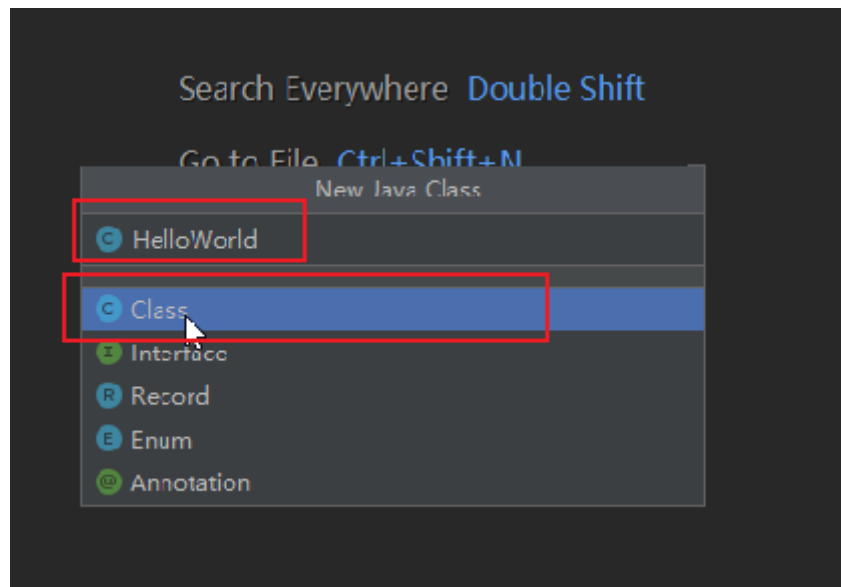


2.2 Create a java file

In the Project tool window, select the src folder, right-click on it, and select Java Class.

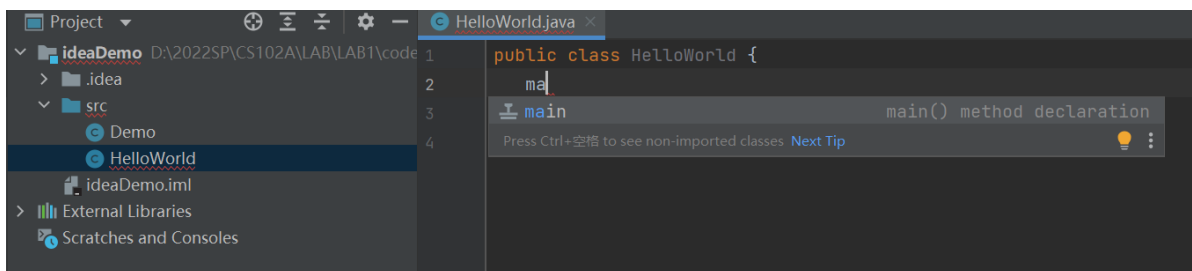


In the Name field, type HelloWorld and click OK.

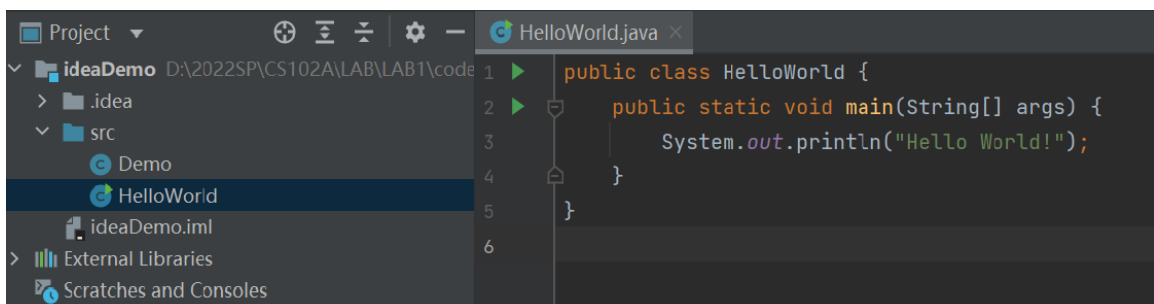
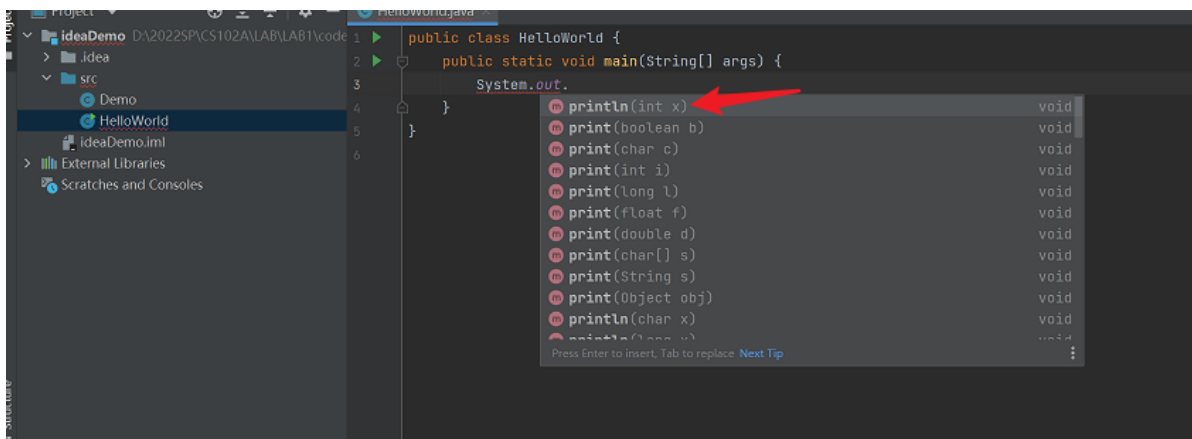


2.3 Write the code

After the java file is created, type `main` and select the template that inserts the `main()` method declaration.

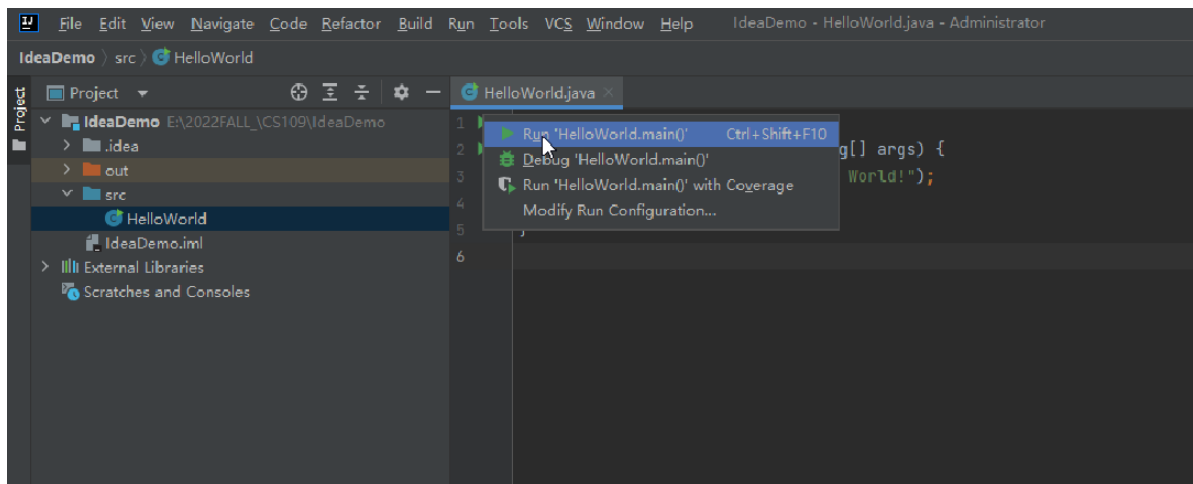


Call the `println()` method using code completion.

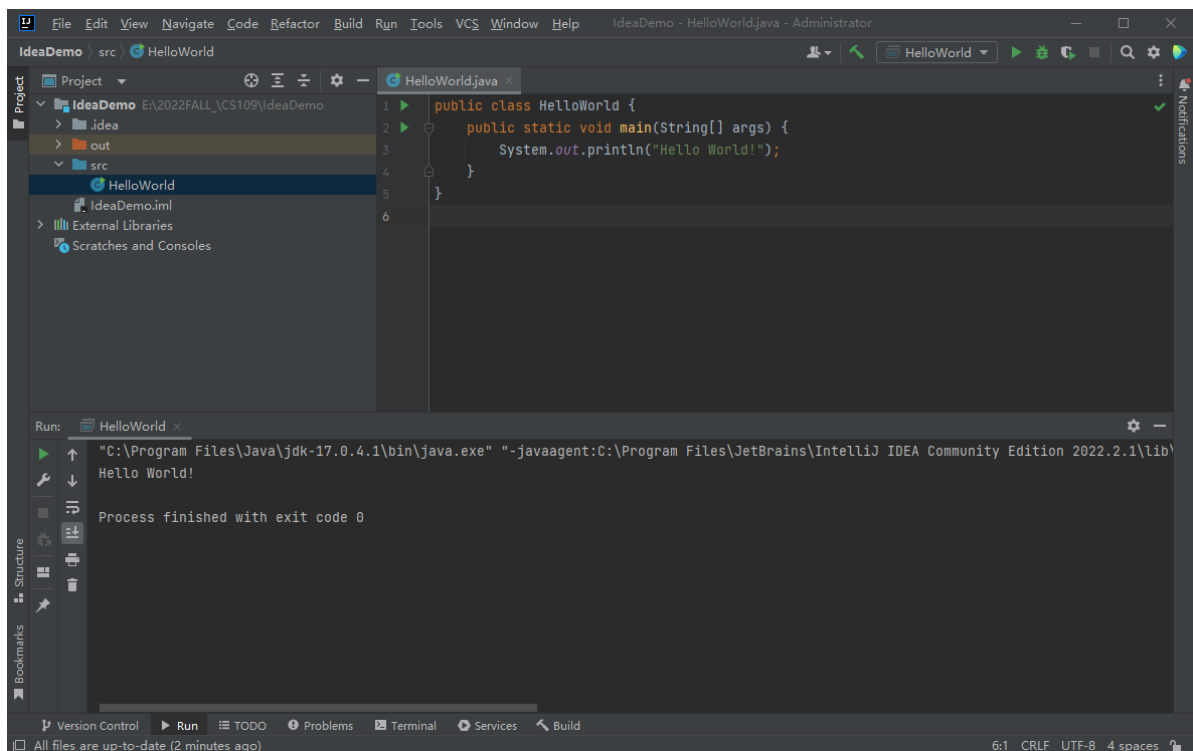


2.4 Build and run the application

1. Go to the Run menu and select the Run option.
2. Select the Class name and click on Run.
3. right-click editor and elect Run 'HelloWorld.main()' in the popup
4. The build and run the code, simply click the green triangle

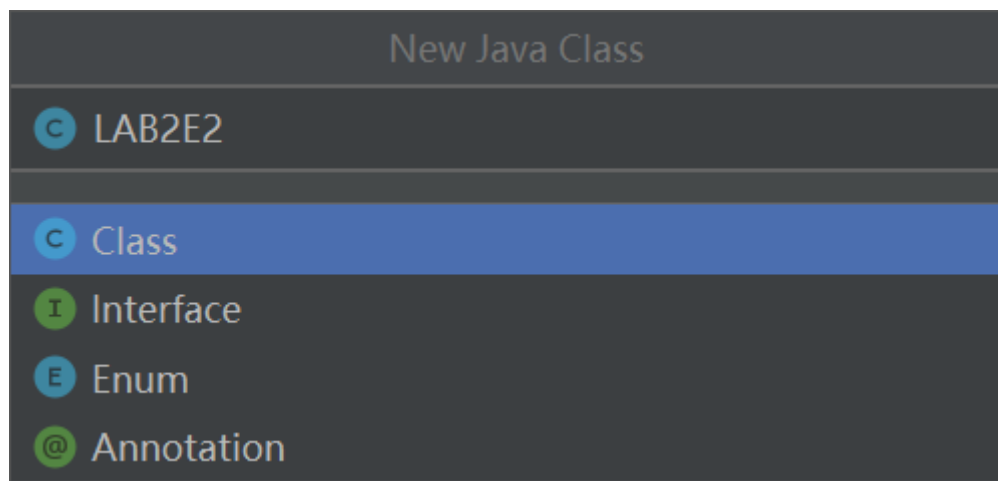


The following result should be seen:



3 Recommended naming rules for Java exercises

- **Project name:** LABxE
example : LAB2E, LAB3E, LAB4E
- **class name:** LABxEx (If the exercises already give the class name, you do not need to follow this rule.)
example : LAB2E2 (LAB2, Exercise 2)



4 Exercise

4.1 Exercise 1

Write and test the following source code to see how Scanner class works:

```
import java.util.Scanner;

public class Sum {
    public static void main(String[] args) {
        System.out.println("welcome to CS109!");

        Scanner input = new Scanner(System.in);

        int number1, number2, sum;

        System.out.print("Enter the first integer: ");
        number1 = input.nextInt();
        System.out.print("Enter the second integer: ");
        number2 = input.nextInt();

        sum = number1 + number2;
        System.out.printf("Sum is %d\n", sum);
    }
}
```

4.2 Exercise 2

Write a program that prompts the user to enter his information, and then prints out in a specific format:

```
import java.util.Scanner;

public class Information {
    public static void main(String[] args) {
        String name;
        int age;
        float weight;
        char grade;

        // Creating object of Scanner class
        Scanner input = new Scanner(System.in);
    }
}
```

```

System.out.print("Enter your name: ");
name = input.next();
System.out.print("Enter your age: ");

age = input.nextInt();
System.out.print("Enter your weight in KG: ");
weight = input.nextFloat();
System.out.print("Enter your highest grade in last semester: ");
grade = input.next().charAt(0);

System.out.printf("You are %s.\nYou are %d years old.\n", name, age);
System.out.printf("You weigh %.1f KG.\nThe highest grade you got is
%c\n", weight, grade);
    }
}

```

The output looks like this:

```

Enter your name: Jack
Enter your age: 20
Enter your weight in KG: 60.5
Enter your highest grade in last semester: A
You are Jack.
You are 20 years old.
You weigh 60.5 KG.
The highest grade you got is A

```

What happens if you enter 21.5 to the age? Try it out. We will talk about exception handling later in this course.

4.3 Exercise 3

Write a program that prompts the user to enter the height and width of a rectangle then prints the area and perimeter of the rectangle. The area and perimeter should be printed to the nearest two decimal place. The output looks like this:

```

Enter the width of a rectangle: 1.7
Enter the height of a rectangle: 2.4
The area is 4.08
The perimeter is 8.20

```

4.4 Exercise 4

Write a time converter that prompts the user to enter the number of seconds then prints the equivalent time in hours, minutes and seconds. The output looks like this:

```

Enter the number of seconds: 7402
The equivalent time is 2 hours 3 minutes and 22 seconds.

```

