Tutorial for Intellij IDEA and Input Output

> Based on the tutorial of "2020S-Java-A" designed by teaching group in SUSTech
>
> Modified (mainly change to markdown file) by ZHU Yueming in 2021. Jan. 11th
>
> Modified by WANG Daxing in 2022. Sept.
>
> Modified by TAO Yida (added new exercise) at 2022. Sept. 12.

Objectives

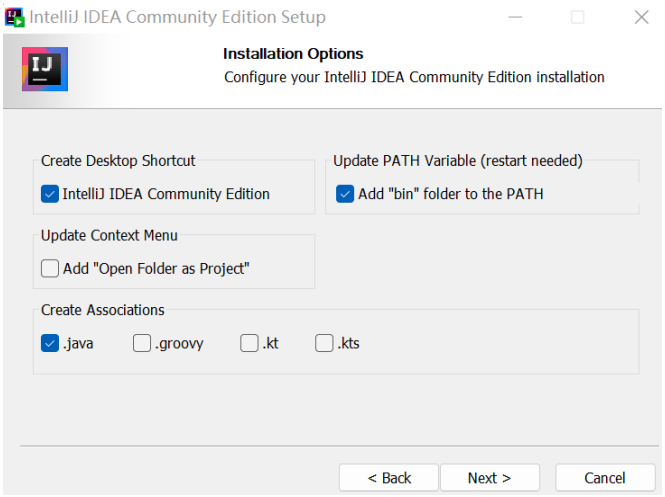
1. Learn how to use an **Integrated Development Environment (IDE)** in writing JAVA programs
2. Learn basic input and output statements.

Software Installation

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

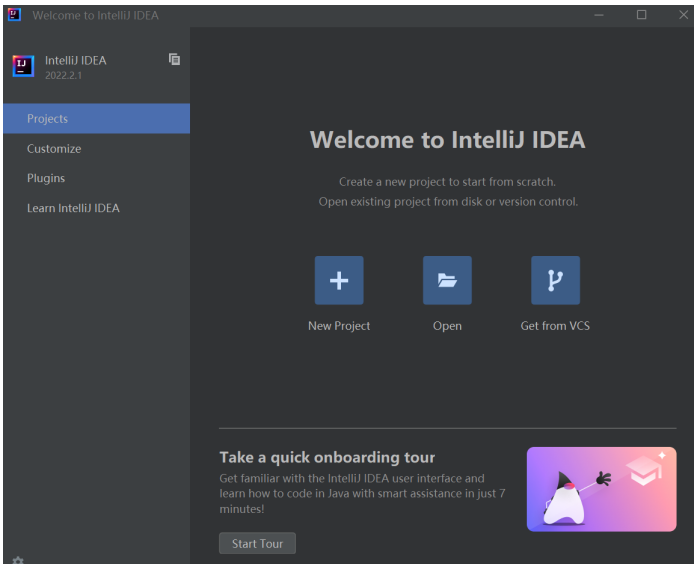
You can download IDEA (community version) at the following link: https://www.jetbrains.com/idea/download/

Once downloaded, run the executable. Follow the prompts to install IDEA, tick "Add launchers dir to the PATH" and ".java in Create Associations" as follows:

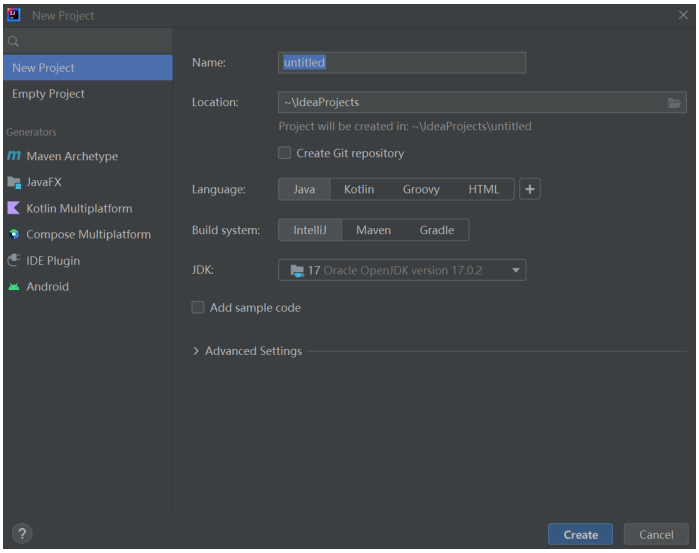


After the installation, you are suggested to restart your computer.

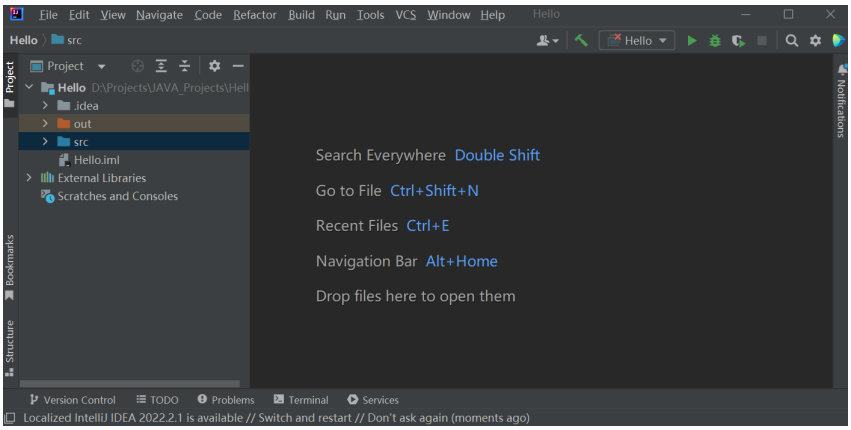
Find your IntelliJ IDEA Community Edition in the Start menu to start IDEA. Confirm the Privacy Policy (You are recommended to read the policy for this and any other software), and decide whether you want to send anonymous statistics data to the software developer, i.e., JetBrains. Finally, the following start window prompts:



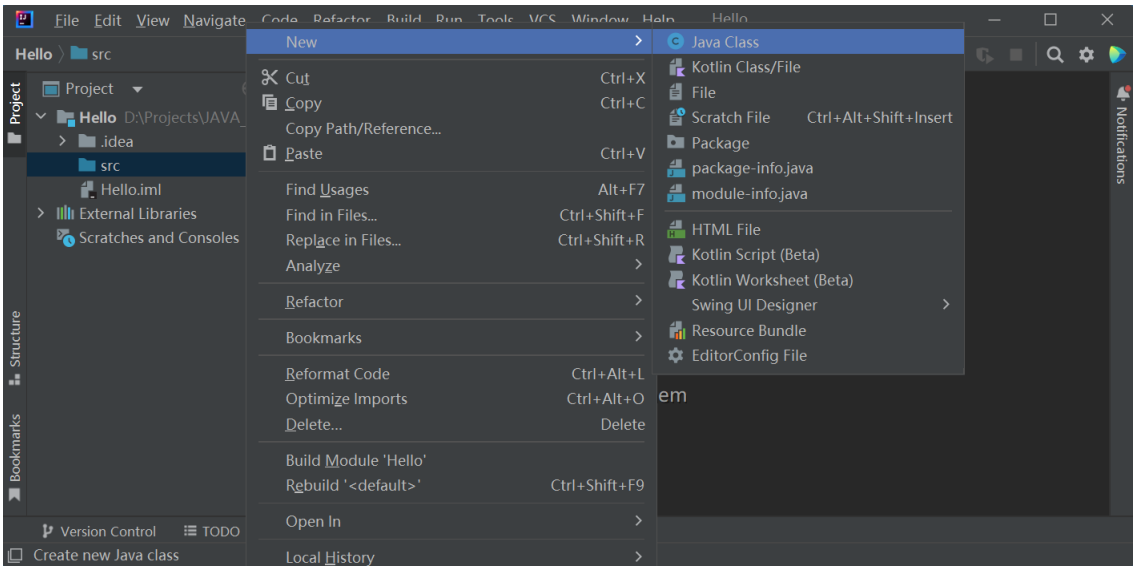
To create a new java program, click New Project. Set project name and location. This is where you want to put all your project files. Make sure that the Project JDK is set. Then press "Create" with the default setting.



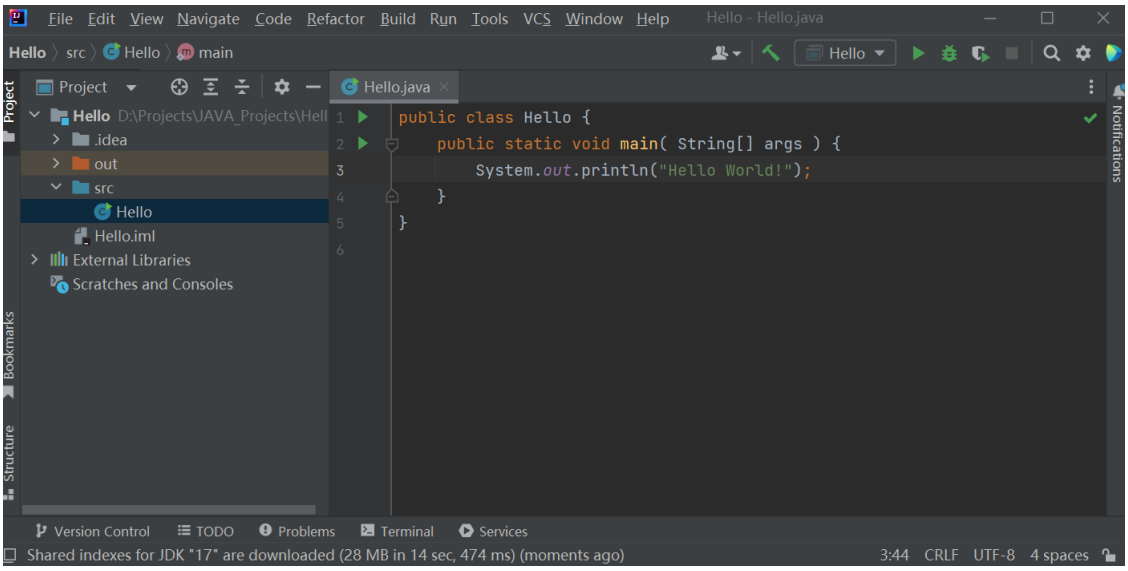
The project should appear and look like follows:



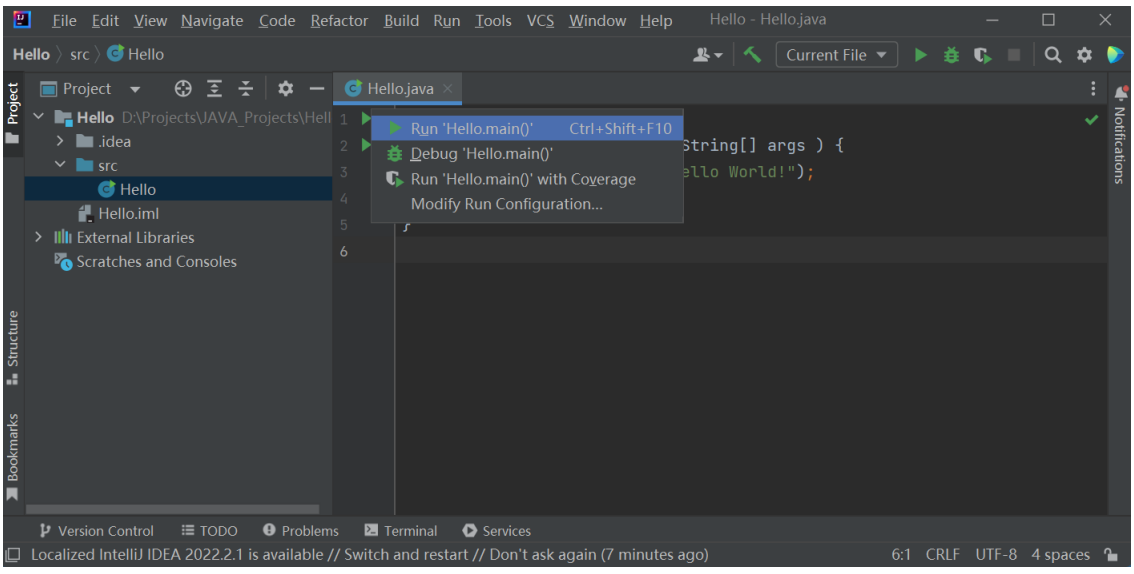
In order to start here, a java file should be created. Right click "src" (which correspondings to the "src" directory in the project directory just set), choose "new" and "Java Class", left click "Java Class" to create a java file.



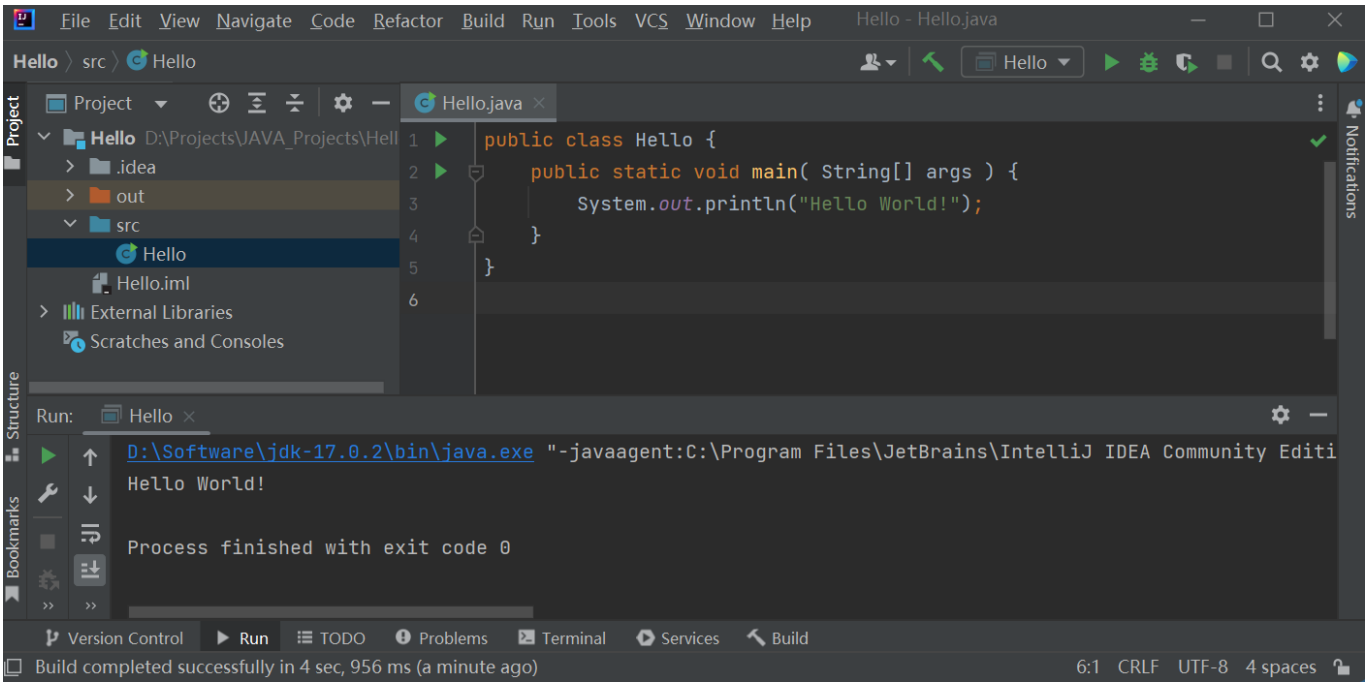
After the java file is created, write some code here:



The build and run the code, simply click the green triangle:



The following result should be seen:



2 Exercise

2.1 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 CS107!");

        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);
    }
}
```

Think: What happens if we input a text (e.g., abc) instead of a number?

2.2 Exercise 2

Write a program that displays a stair with 8 levels using asterisks (*). Sample output:

```
*
**
***
****
*****
******
*******
********
```

Think: What if we want to display a stair with any levels?