

Objective: The student will be able to write a simple program to perform basic arithmetic operations.

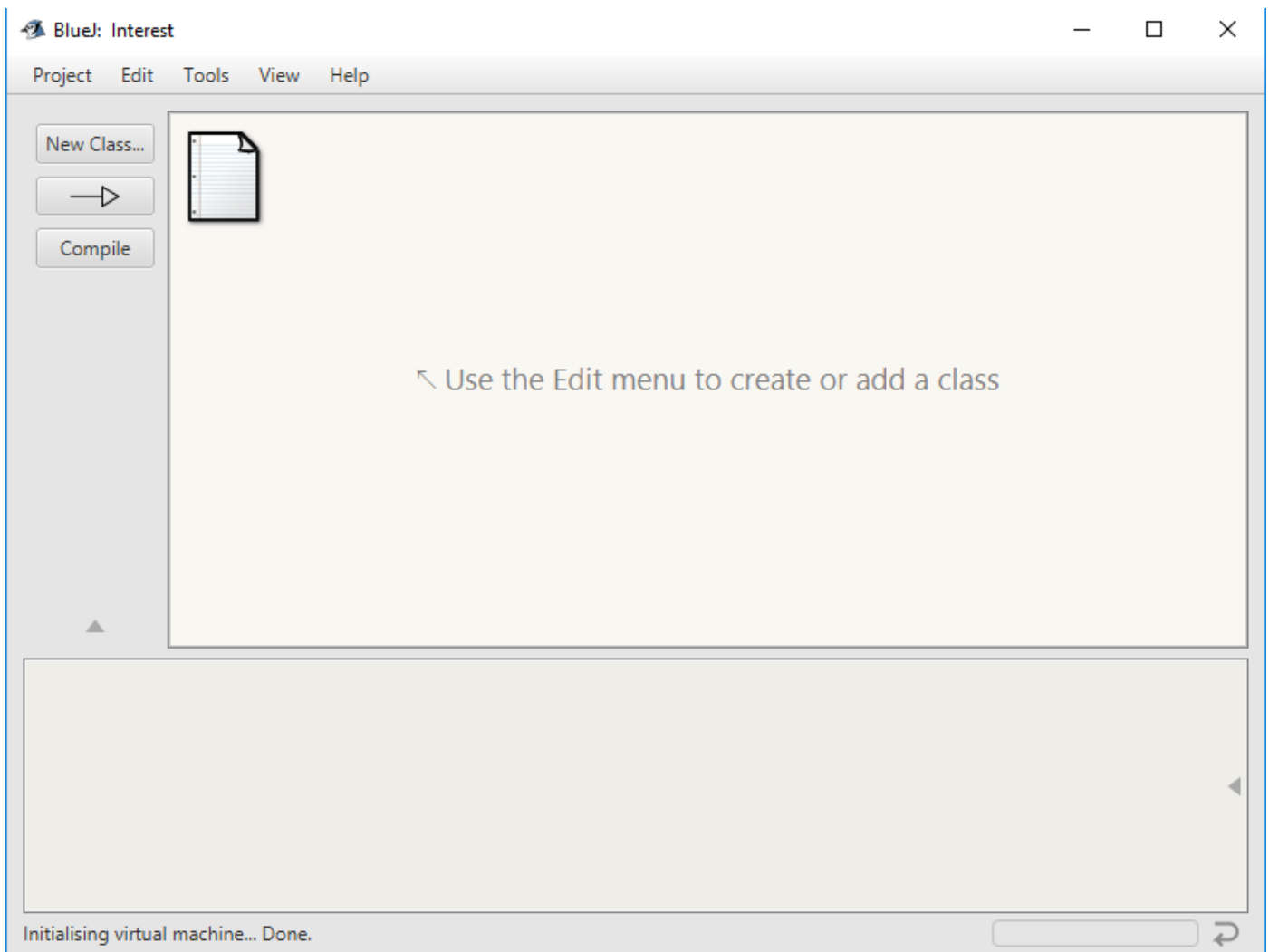
Directions: Perform the following steps.

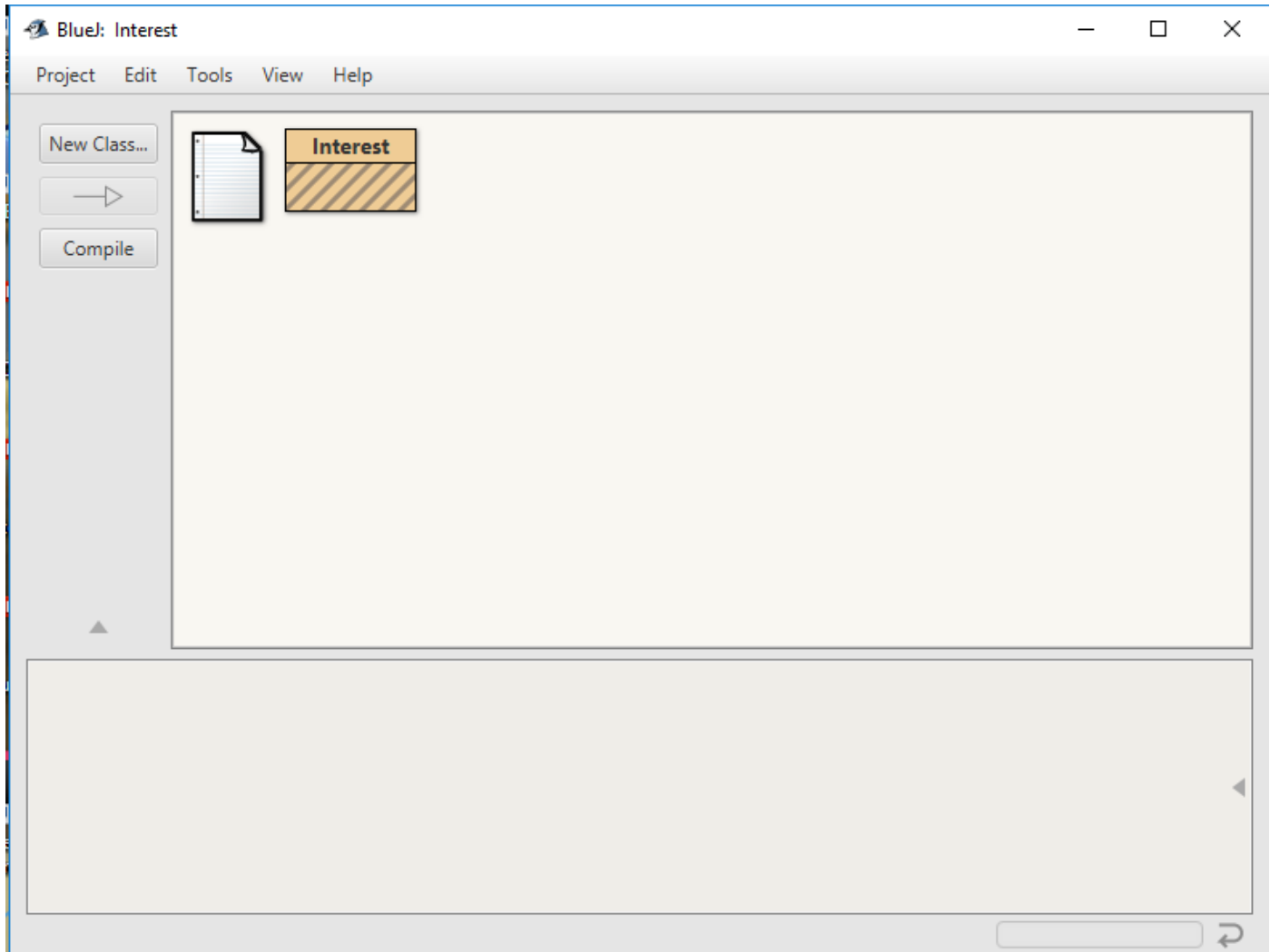
Step 1: Start BlueJ.

Step 2: Click on New Project.

Step 3: Enter a Project Name. In this case Interest. The project name and the class name will be the same, so the first letter should be a capital letter.

Step 4: Click on New Class and enter Interest.





Step 5: Double click on the Interest box to start the editor.

Step 6: Press Control-A to select all text in the editor screen. Press the Backspace key to remove this text.

Step 7: Enter the program code shown. When declaring public class Interest do not press the backspace key after entering the closing brace “}”, this will lock the editor. Once you put in the closing brace and hit the enter key you can go back and edit any errors without any problems. (It is a program bug with BlueJ).

```
// Java Tutorial 2 Calculating Interest
```

```
// Mr. Ellsworth   October 31, 2017
```

```
public class Interest
```

```
{
```

```
    public static void main(String[] args)
```

```
{
    // Declare Variables

    double principal = 0.0;    // The value of the investment
    double rate = 0.0;        // The annual interest rate
    double interest;          // Interest earned in one year

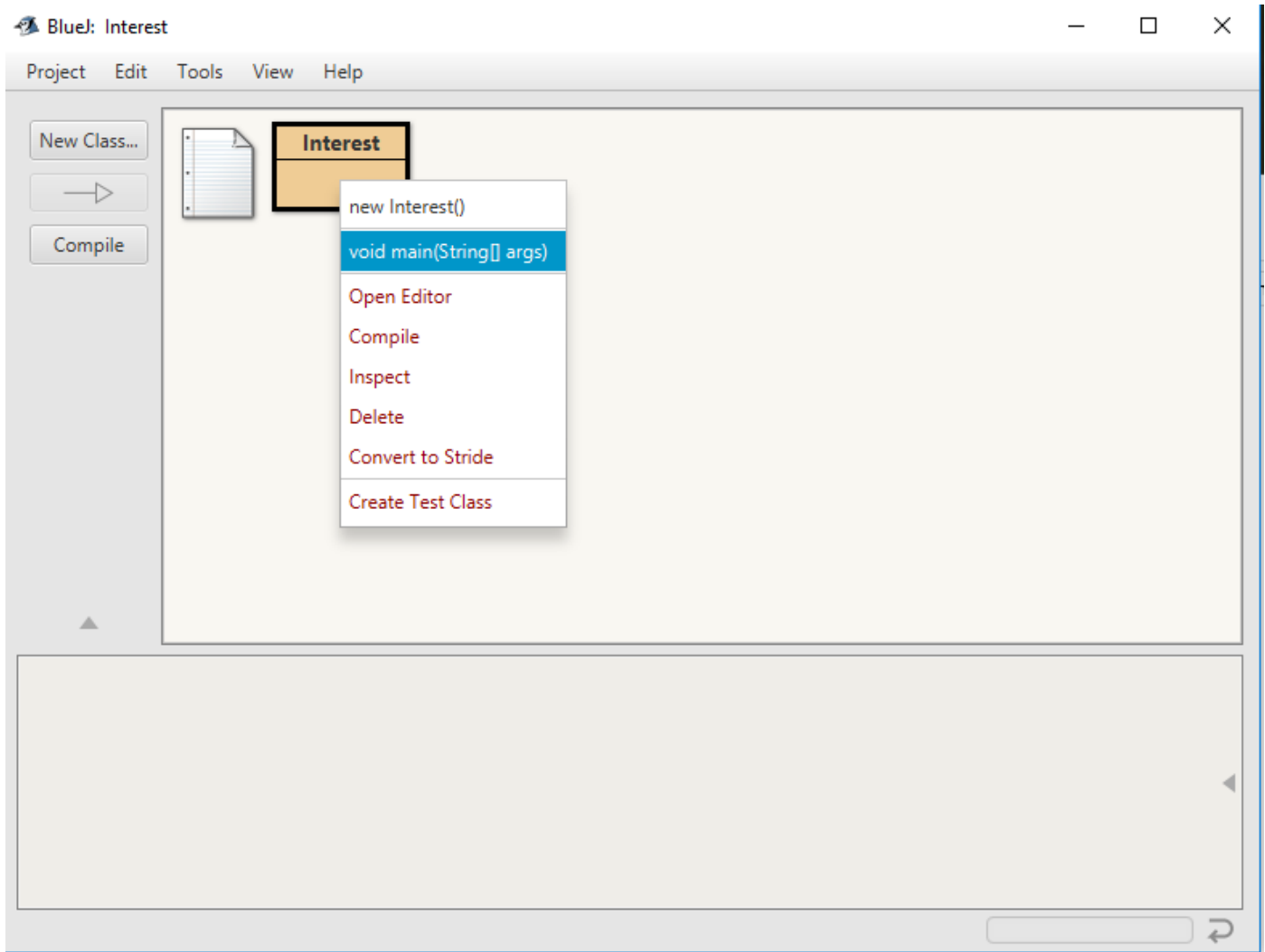
    // Processing Section

    principal = 17000;
    rate = 0.027;
    interest = principal * rate; // compute the interest

    principal = principal + interest; // computer the value of the investment

    // Output Section

    System.out.print("The interest earned is $");
    System.out.println(interest);
    System.out.print("The value of the investment after one year is $");
    System.out.println(principal);
} // end of method main
} // end of class Interest
```



Step 8: Click on the Compile button and the program will be compiled. If there are any errors correct the errors and compile the program again.

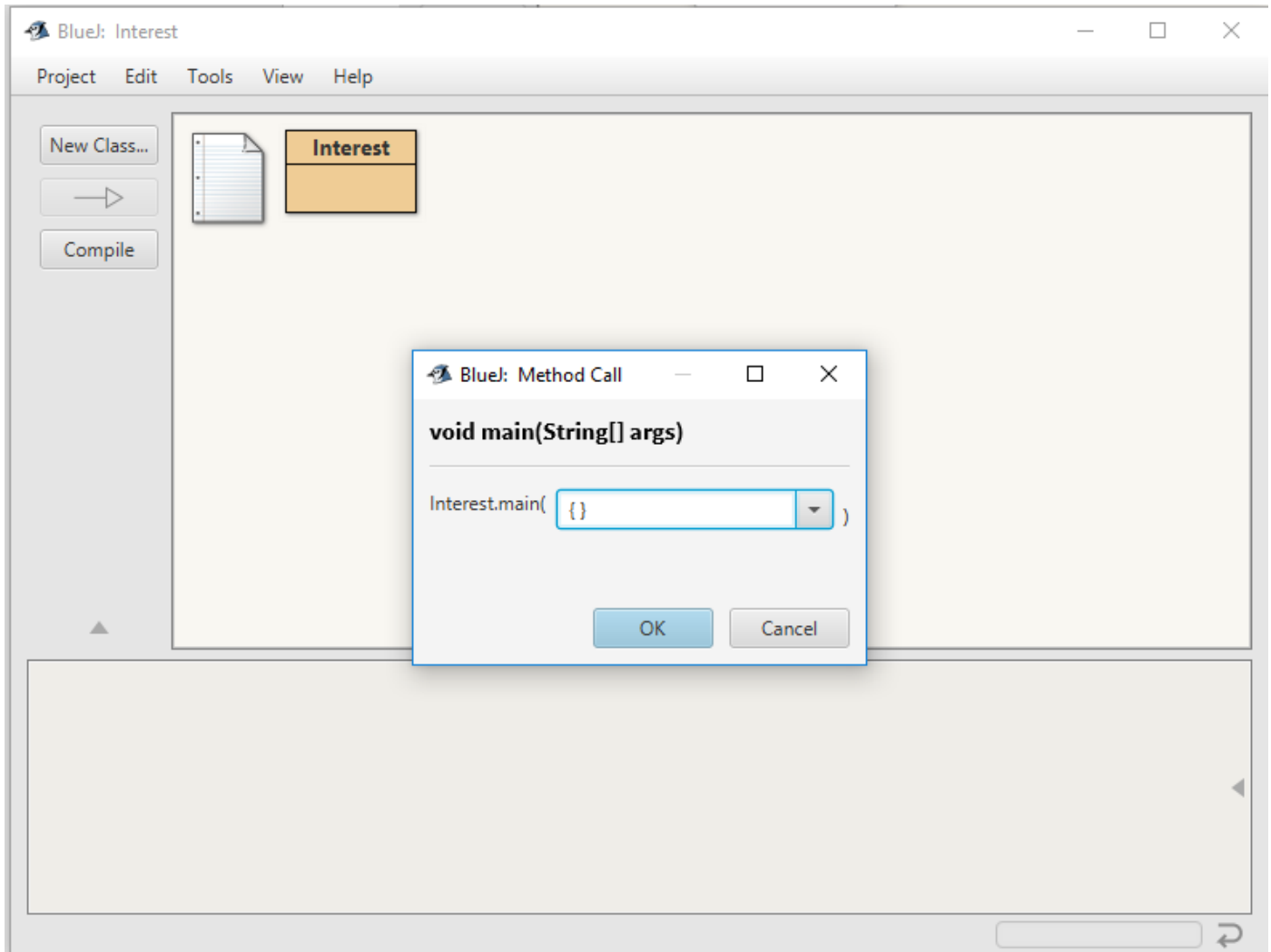
Step 9: Minimize the editor by click on the “\_” button in the upper right-hand corner of the screen.

Step 10: Right click on the Interest box and a drop-down menu will appear.

Step 11: Click on void main(String[] args) to start the program.

Step 12: Click on the OK button to run the program.

Step 13: A BlueJ Terminal Window will open, and you will see the output displayed.



BlueJ: Terminal Window - Interest

Options

The interest earned is \$459.0

The value of the investment after one year is \$17459.0

Step 14: A variable in Java is designed to hold only one particular type of data; it can legally hold that type of data and no other. The compiler will consider it to be a syntax error if you try to violate this rule by assigning a variable of the wrong type to a variable. We say that Java is a **strongly typed** language because it enforces this rule.

There are eight so-called primitive data types built into Java. They are byte, short, int, long, float, double, char, and Boolean. The first four types hold integers (or whole numbers like 33, -142, and 0). The four integer types are distinguished by a range of integers they can hold. The float and double types hold real numbers (such as -1.7, or 3.14159). Again, the two real types are distinguished by their range and accuracy. A variable of type char holds a single character like 'A.' Boolean holds one of two values, true, or false.

Step 15: Write a program to calculate the area of a circle. Try using the different data types and see what effect they have on the solution for various sized circles.