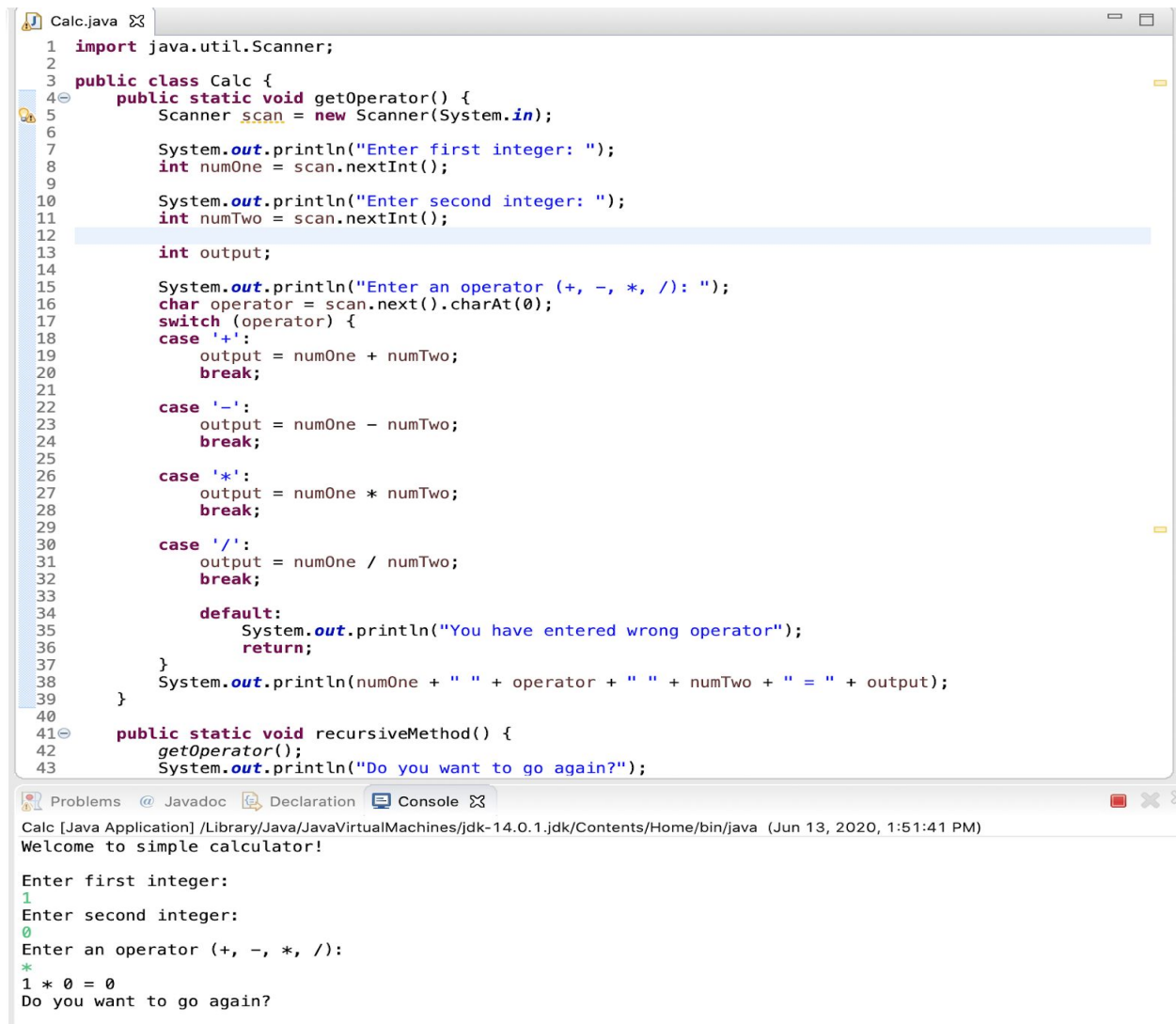


Installing Eclipse IDE 2020-03 software to create a calculator using the Java programming language

By Nicolas A. Solley



```

1  import java.util.Scanner;
2
3  public class Calc {
4      public static void getOperator() {
5          Scanner scan = new Scanner(System.in);
6
7          System.out.println("Enter first integer: ");
8          int numOne = scan.nextInt();
9
10         System.out.println("Enter second integer: ");
11         int numTwo = scan.nextInt();
12
13         int output;
14
15         System.out.println("Enter an operator (+, -, *, /): ");
16         char operator = scan.next().charAt(0);
17         switch (operator) {
18             case '+':
19                 output = numOne + numTwo;
20                 break;
21
22             case '-':
23                 output = numOne - numTwo;
24                 break;
25
26             case '*':
27                 output = numOne * numTwo;
28                 break;
29
30             case '/':
31                 output = numOne / numTwo;
32                 break;
33
34             default:
35                 System.out.println("You have entered wrong operator");
36                 return;
37         }
38         System.out.println(numOne + " " + operator + " " + numTwo + " = " + output);
39     }
40
41     public static void recursiveMethod() {
42         getOperator();
43         System.out.println("Do you want to go again?");
44     }
45 }

```

Problems Javadoc Declaration Console

Calc [Java Application] /Library/Java/JavaVirtualMachines/jdk-14.0.1.jdk/Contents/Home/bin/java (Jun 13, 2020, 1:51:41 PM)
Welcome to simple calculator!

```

Enter first integer:
1
Enter second integer:
0
Enter an operator (+, -, *, /):
*
1 * 0 = 0
Do you want to go again?

```

These instructions are designed and intended to be used by beginners of the Eclipse IDE software. Eclipse is an integrated development workspace used by many computer programmers for creating applications using Java and other programming languages. This guide is not targeted towards experienced programmers. If you are a professional, please click this link: <https://www.tutorialspoint.com/eclipse/index.htm>

Installing Eclipse to Create Your Calculator

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Important Safety Precautions

Power:

Make sure that your computer is plugged into the wall outlet properly in order to prevent it from shutting down in the process of following this guide.

Interferences:

Make sure that your computer is up to date to guarantee that software is properly installed. Be sure to check for updates to prevent inconvenient sudden updating in the process of following this guide.

Proper Copy:

Make sure that you are using the proper copy of Eclipse. There are many fake copies online that can give computers viruses.

Losing Work:

To ensure that your project is up to date in case anything happens, be sure to frequently save your work after programming more than 10 lines of code at a time.

Essential System & Technology Requirements

For more information: [View the complete datasheet for Oracle Enterprise Eclipse\(PDF\)](#)

Before installing Eclipse 2020-03 IDE, the following is **required**:

- Mac or Windows Computer
- Keyboard & Mouse
- Stable Internet Connection

Please install the prerequisite software according to the following:

[Notice: For the Eclipse 2020-03 IDE to properly execute, a **Java Runtime Environment(JRE)** or a **Java Development Kit(JDK)** is required. Refer to the following link for installation: [Required Eclipse IDE runtime software](#)]

System Requirements

[Refer to this link for more information](#)

- MAC OS Leopard - 64 bit
- Windows XP ,Vista, Windows 7 - 64 bit
- Oracle Enterprise Linux 5 - 64 bit
- RedHat Linux 5 - 64 bit
- Recommend 2GB memory for IDE and 2GB if running server locally

Eclipse Installation

The following link can be used in order to install a complete copy of Eclipse.
[Download Eclipse 2020-03 IDE Link](#)

Notice: Eclipse can be installed if and only if system requirements listen above are satisfied.

Eclipse Calculator Step-by-Step instructions

Step One: Creating a New Project

Once Eclipse opens:

1. Wait for a **prompt** to appear notifying you to “Select a directory as a workspace”.

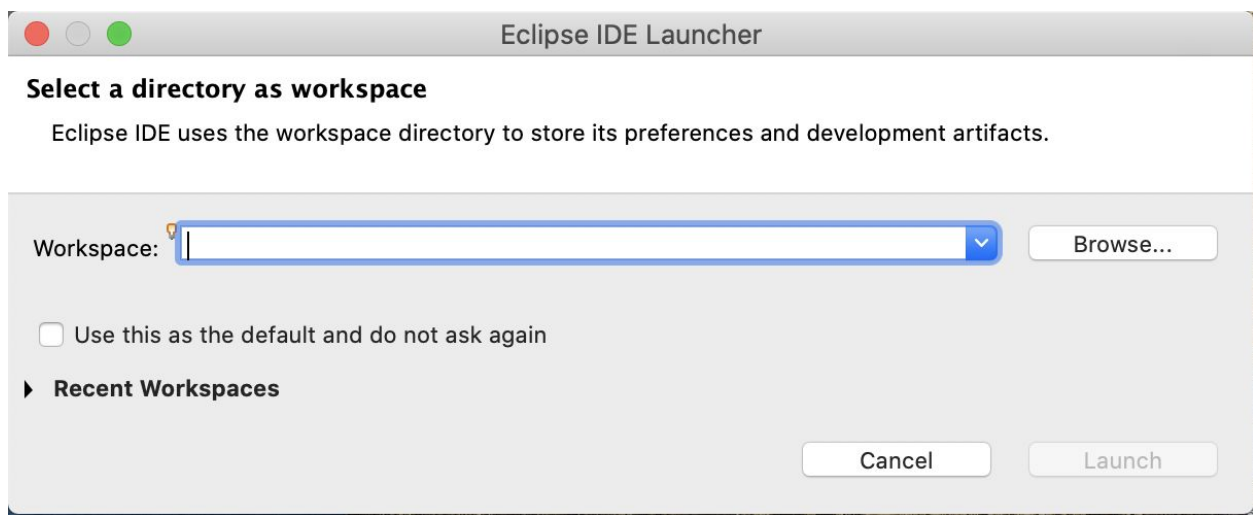


Figure 1.0 *Choosing a convenient directory will allow you to manage your files easier.*

In order to create a workspace, *right click* on the **Desktop** and create a new folder. After the folder is created, click “**Browse**” in eclipse and choose the folder as your workspace. On completion, select “**Launch**”.

2. Wait for Eclipse to open a new window with many options. **Do not** select any of the recommended options. Instead, scroll your mouse to the top left of the screen and select “**File**”. *See image below.*

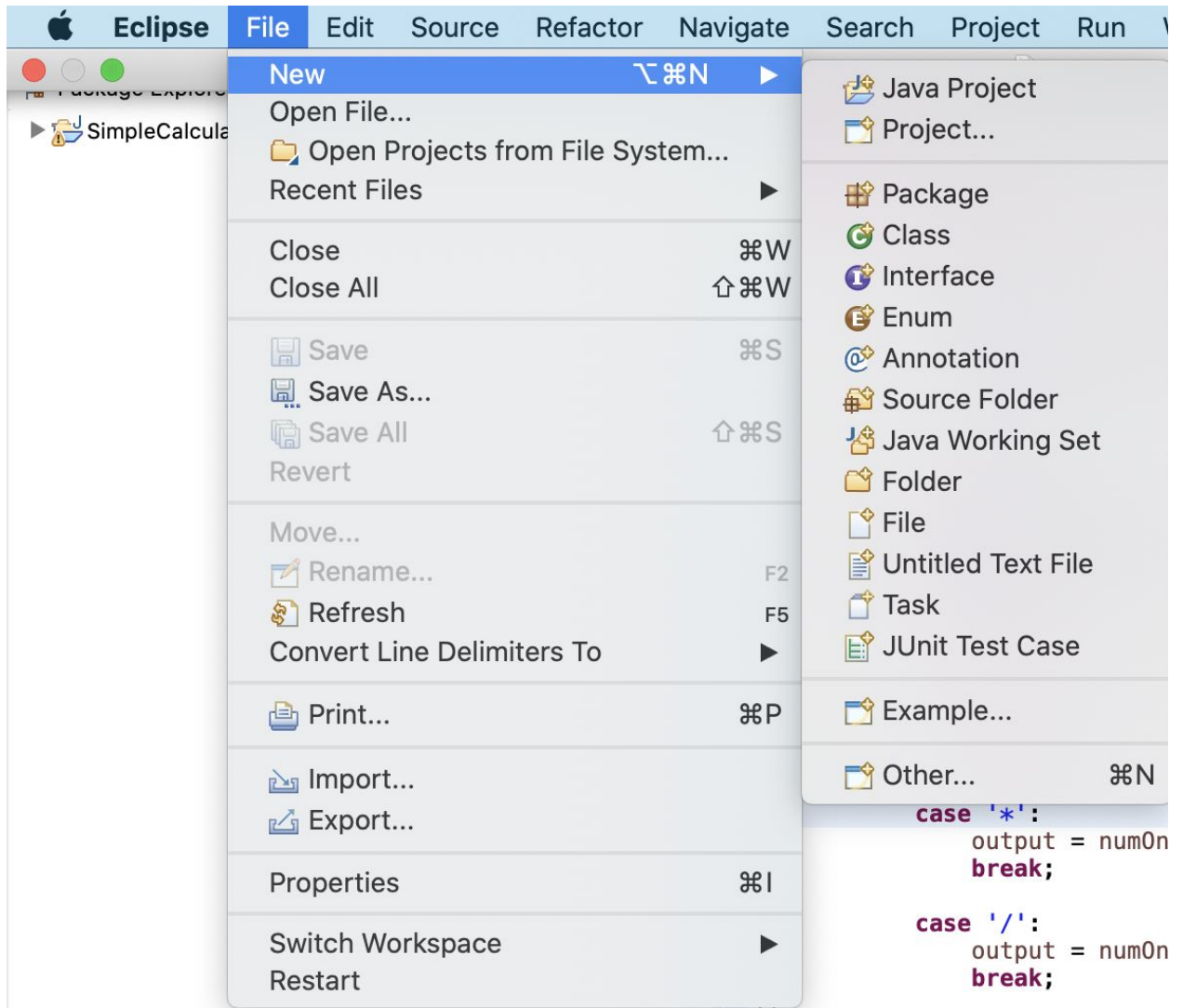


Figure 1.1 Many other categories are available to customize your projects.

2. Proceed by scrolling over the “**New**” category and selecting “**Java Project**” at the very top of the navigatin menu. A project window will appear with many options but all that is required is naming your project. This project can be named whatever you want it to be.

3. Notice on the upper left hand side of the screen, the location of your project name. Right click on your projects name that you gave it and select “**New**” followed by “**Class**”. You can name this class whatever you want but make sure it is one word long. You will need to use this name in your project possibly.

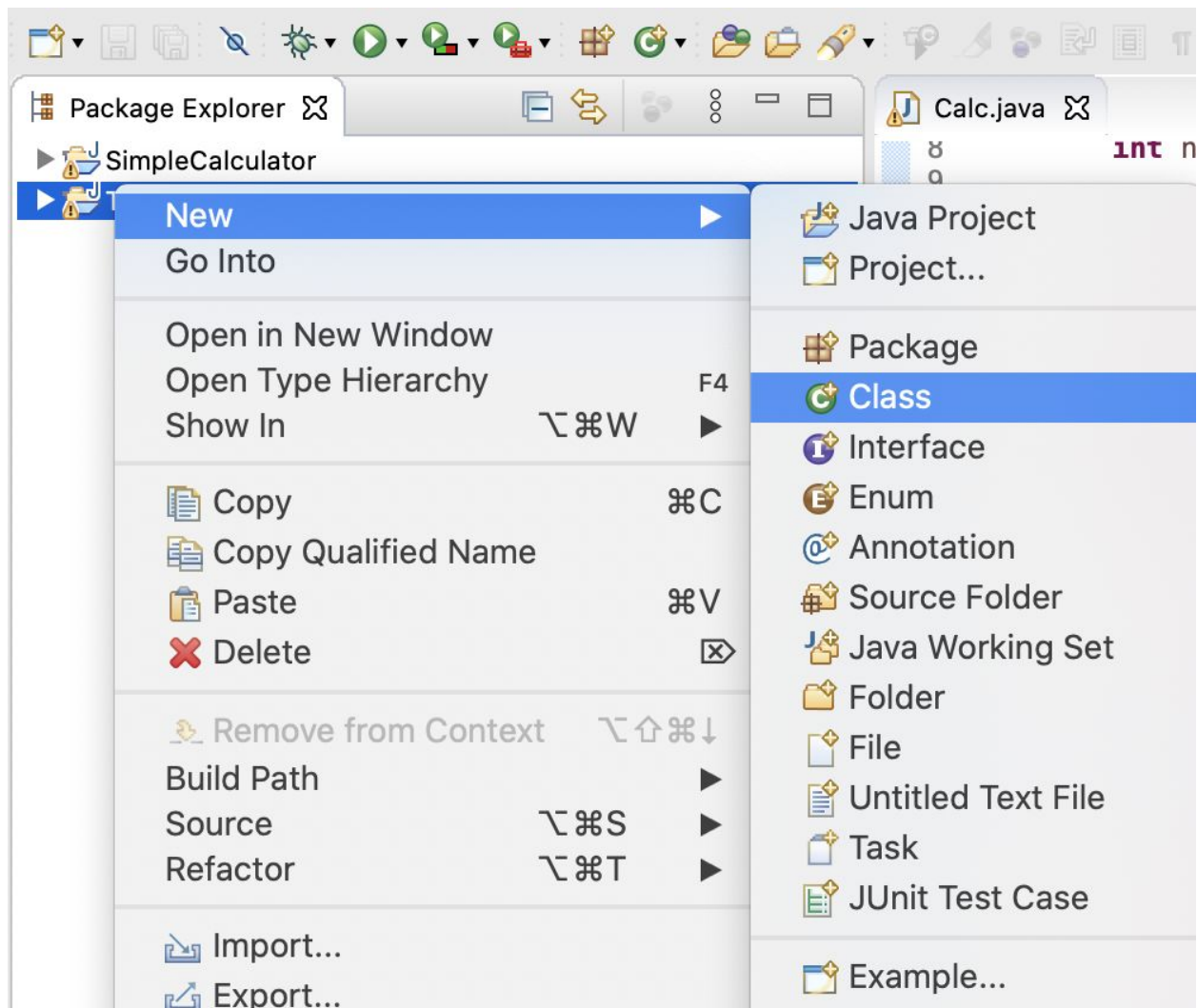


Figure 1.2 *Classes are always used as your workspace to do the programming in.*

Step Two: Programming the Calculator

Programming Walkthrough:

4. Open the class you've created by clicking on our project and then clicking src to find it. After double clicking the class name you
- 5.
6. can begin our programming in the white boxed window. Begin by typing the following in order to print to the user your welcome message.

*If the green arrow is clicked in the top left corner, the program will run
After test-running the program, you can proceed with the next step.*

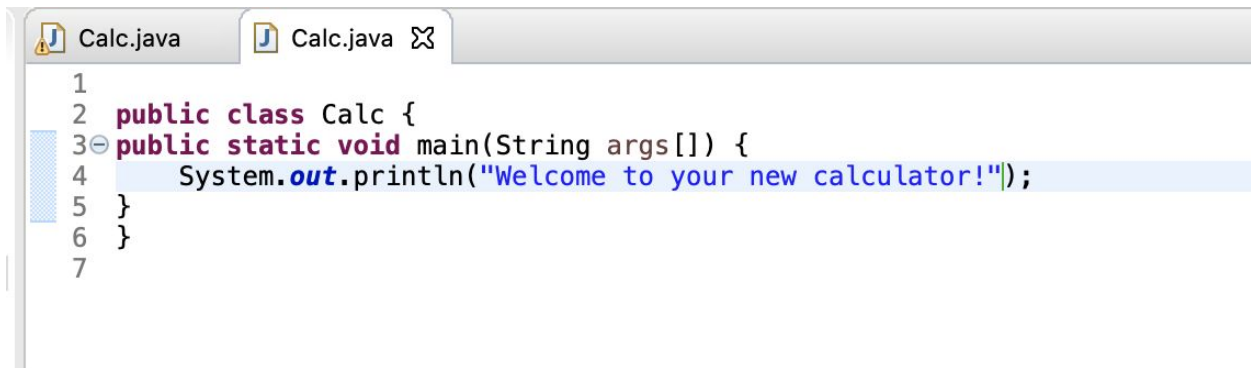


Figure 1.3 *Most programmers learn how to print things to the console first in every type of class.*

7. Now that you have a welcome message for the user running the calculator application, you need to create a new method and call it whatever you want as long as it is one string long.
 “Public static void getOperator() {
 //This is where your code will go
 } “

Now that you have a method, you will need to create more statements asking the user to enter integers. After that, create a scanner object by typing within the method:

“Scanner scan = new Scanner(System.in)”

Followed by

“int numOne = scan.nextInt();”

“int numTwo = scan.nextInt();”

```

1  import java.util.Scanner;
2
3  public class Calc {
4      public static void getOperator() {
5          Scanner scan = new Scanner(System.in);
6          System.out.println("Enter first integer: ");
7          int numOne = scan.nextInt();
8          System.out.println("Enter second integer: ");
9          int numTwo = scan.nextInt();
10         int output;
11         System.out.println("Enter an operator (+, -, *, /): ");
12         char operator = scan.next().charAt(0);
13         switch (operator) {
14             case '+':
15                 output = numOne + numTwo;
16                 break;
17             case '-':
18                 output = numOne - numTwo;
19                 break;
20             case '*':
21                 output = numOne * numTwo;
22                 break;
23             case '/':
24                 output = numOne / numTwo;
25                 break;
26             default:
27                 System.out.println("You have entered wrong operator");
28                 return;
29         }
30         System.out.println(numOne + " " + operator + " " + numTwo + " = " + output);
31     }
32 }

```

Figure 1.4 Switch statements can be used when many scenarios are taken into account.

8. Create a SysOut statement asking the user for an operator, followed by
“char operator = scan.next().charAt(0);”
Next create a switch statement by following along with the example posted
above.

9. Create a recursive method that will allow the program to ask the user if they want to go again.

```

public static void recursiveMethod() {
    getOperator();
    System.out.println("Do you want to go again?");
    Scanner inputScanner = new Scanner(System.in);
    String userInput = inputScanner.nextLine();
    if (userInput.equalsIgnoreCase("yes")) {
        System.out.println("Restarting...");

        recursiveMethod();

    } else {
        System.out.println("Exiting Calculator");
    }
}

public static void main(String[] args) {
    System.out.println("Welcome to simple calculator!");
    System.out.println();
    recursiveMethod();
}

```

Figure 1.5 *Recursive methods can call themselves if specific circumstances are met.*

10. Follow along with the code above to finish the recursive method. After that is completed, go back to the main method that you created in the beginning and call the recursive method by typing the name of the method followed by “();”

Step Three: Executing the Program

Programming Walkthrough:

11. Run the program and follow along in the console. You will notice the welcome message followed by your message prompting the user to enter the integers and the operator. If all steps were followed properly, you should have a functioning console calculator.

Conclusion

Congratulations on creating your Java calculator! You took the steps to put you in a position where you are on your way to becoming a Java programmer.

Your new calculator has the ability to work with four different operators to add, subtract, multiple, and divide user inputted integers.

Recommendations: The best way to continue learning Java is to watch YouTube video on Java tutorials. Programming may seem very difficult and abnormal to our common languages but as one progresses and understands the concepts of programming, things become drastically easier to logically understand. Free courses are offered all across the internet to train users as well.

See links below for useful learning courses.

[Alex Lee YouTube easy to understand Java walkthroughs](#)

[Free Java programming course](#)

[Popular Java learning courses](#)