LAB - Mathematic expressions

1) **Write an application that outputs three lines as follows:**

>   7 / 4 using integer division equals 1
>
>   7 / 4 using floating-point division equals 1.75
>
>   7 modulo 4 equals 3

where all numbers and the result are replaced by variables and mathematical expressions that have a result computed by your application. Use **named constants** for 7 and 4 everywhere in your application (including the output statements) to make the application easy to modify. Comments are not necessary for this lab activity, but you are to choose meaningful identifiers, and use indentation as shown in the code in your text and as demonstrated in class. Compile and run the program.

Listed below is a partial implementation of the program using the instructions described above. Replace the `<code>` placeholders with the correct java source code.

```
public class MathExpressions1 {

  public static void main(String[] args) {

    final int NUM = 7;
    final int DEM = 4;

    System.out.println(NUM + " / " +  DEM + "  using integer division equals  " +  NUM/DEM );
    System.out.println(<code> + " / " +  <code> + "  using  floating-point division equals  "
                                                        +  <code>);
    System.out.println(<code>);
  }
}
```

Replace the values of NUM and DEM with 14 and 5; compile and run your program to see the changes. Upload the source code file to Blackboard and "Save as Draft".

2) Write a java application called MathExpressions2 that reads an integer Celsius temperature as input and converts it to its Fahrenheit equivalent as a floating-point value. The formula is

$$\textbf{Fahrenheit = 9/5 Celsius + 32}$$

- You will need to prompt the user to input the temperature in Celsius.
- After the Celsius temperature is input, read in the value and perform the conversion to Fahrenheit.
- Then, output the original, Celsius temperature along with the corresponding Fahrenheit equivalent. (Verify that your program displays the correct result to 2 decimal places.)
- The application should include appropriate messages labelling each value in the output statement.
- Save this file after you have successfully completed the problem.

3) Submit both files `MathExpressions1.java` and `MathExpressions2.java`.