

CSC171 — Homework 1

Programs, Statements, Values, Expressions, Variables

The goal of this assignment is to get you started programming in Java using Eclipse, and to give you practice using values, expressions, and literals.

1. Write a single Java program that includes the following:
 - (a) Start with a basic single-class Java program with a `main` method that prints “Hello World”.
 - (b) Add a block comment at the top of the file with your name, your NetID, the assignment number, and your lab section day/time. **You must include a comment like this in every file you submit for this class.**
 - (c) For homework, you must write “I did not collaborate with anyone on this assignment.” in the block comment. **You must include this statement in at least the main file in every submission for this course.**
2. Add code that uses a `String` variable to store the name of a color and then prints out “My favorite color is: ” and then the color, using a single `println` call.
3. Write a program that prompts the user to enter two decimal numbers. Use the `Scanner` class to read them into `double` variables. Print out the result of the four basic arithmetic operations (addition, subtraction, multiplication, and division) on the two numbers.
4. Write a program that converts Fahrenheit temperatures to Kelvin temperatures using the formula:

$$K = \frac{5}{9}(F - 32) + 273$$

Prompt the user for the temperature, and then print a message of the form “212 degrees Fahrenheit is 373 Kelvin”.

5. Write a program that inputs a number of grams as a `double` and outputs the equivalent energy (in Joules) using the formula $E = mc^2$ where c is the speed of light in vacuum in meters per sec (look it up). Use a variable (named `c`, presumably) to store the speed of light for use in your program.

Grading Scheme

Equal weight for each part.

Doesn't compile or is trivial	< 50%
Compiles and is non-trivial	≥ 50%
Complete and correct with good style and comments	100%
Incomplete, incorrect, bad style, no comments	< 100%

Submission Requirements

Your submission **MUST** include a file named “README.txt” with your name, your NetID, the assignment number, and your lab section. This file should explain anything we need to know about how to build and run your project. In particular, be sure to explain how to run what parts of your submission for each question in the assignment.

Submit your solution as a single ZIP archive to BlackBoard before the deadline.

Late homeworks will not be graded and will receive a grade of 0.

All assignments and activities associated with this course must be performed in accordance with the University of Rochester's Academic Honesty Policy.