CIT 130 Beginning Java
Assignment #4 – Total Points = 100

Assigned Date: 9/10 Date Due: 9/20

DO NOT share your answers with anyone. DO NOT collaborate on completing work with anyone. DO NOT use the Internet to search for solution to assignments. DO NOT pay anyone to write your code. Failure to meet this requirement leads to a violation of the academic integrity principles.

Helper File: See the helper files located under the assignment link where you picked up this assignment file for a sample question and answer.

Grading Criteria File: See the grading criteria file under the assignment link where you picked up this assignment file for a sample question and answer.

Objective: Demonstrate your understanding of Java selection structure. This assignment is based on the material covered in **chapter 3** of your textbook.

Assignment: Write a Java program that reads in a temperature in either degrees Fahrenheit, Celsius, or Kelvin and converts the temperature to the other two formats. Your program will ask for a single character representing the degree to be converted (F, C, K for the 3 types of measurements) and a number representing the temperature. If the input temperature code is not one of F, C, or K, issue an error message and end the code. If the input temperature value is not within -500 to 500 degrees, inclusive, issue an error message and end the code.

Process: Use the following formulas for temperature conversion. I hope the expressions do not scare you. Everything you need is given to you.

C = (F - 32) * 5/9
K = (F + 459.67) * 5/9
F = C * 9/5 + 32
K = (9/5 * C + 491.67) * 5/9
F = 9/5 * K – 459.67
C = (491.67 – 9/5 * K) * 5 / 9

Submit your Java file. Use the file format: **firstNameLastNamecit130_hw4.java** for your file name. NOTE: Java class names must being with a capital letter (i.e., FooBarcit130_hw3.java). Submit your file to the assignment dropbox in Canvas. The following is a sample run of the code. Make sure to fully test your program. **Your processing must be VERY similar to the sample run**.

Don’t worry about controlling the number of digits after the decimal point.

SAMPLE RUN:

Enter the degree conversion code: X
INVALID code
Enter the degree conversion code: F
Enter the temperature value in degrees Fahrenheit: 900
INVALID value for temperature

Enter the degree conversion code: F
Enter the temperature value in degrees Fahrenheit: 100
Temperature in degrees Celsius: 37.77 Celsius
Temperature in degrees Kelvin: 310.92 Kelvin

Enter the degree conversion code: K
Enter the temperature value in degrees Kelvin: 100
Temperature in degrees Celsius: -173.15 Celsius
Temperature in degrees Kelvin: -279.67 Fahrenheit

Enter the degree conversion code: C
Enter the temperature value in degrees Celsius: 100
Temperature in degrees Celsius: 212 Fahrenheit
Temperature in degrees Kelvin: 373.15 Kelvin