CSCI-105 Introduction to Programming
Lab 5 - Tuesday

Instructions:

Log onto cs.bridgewater.edu. Change your working directory to the labs directory in your repository. Create a subdirector (in labs) named lab5. Change your working directory to lab5. When complete, please push your code to GitHub.

Write a Java program in a class named **CalculateEnergy** that behaves as follows:

The program repeatedly does the following until the user enters "exit".

- Print the following menu
  - **[1] compute energy**
  - **[2] exit**

- If the user enters 2 to exit, the program should terminate.
- If the user enters 1 to compute energy, the program should compute the energy need to heat water from an initial temperature to a final temperature. The program should prompt the user to enter the amount of water in kilograms and the initial and final temperature of the water. The formula to compute the energy is

  Q = M * (final temperature – initial temperature) * 4184

  where M is the weight of water in kilograms, initial and final temperatures are in degrees Celsius, and energy Q is measured in joules. Below is a sample run.

  Enter the amount of water in kilograms: 55.5 [enter]
  Enter the initial temperature in Celsius: 3.5 [enter]
  Enter the final temperature in Celsius: 10.5 [enter]
  The energy needed is 1625484.0

  Print the energy needed to the nearest tenth.