Follow the directions below:

Write a program that calculates the energy needed to heat water from an initial temperature to a final temperature. Your 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 use for this program is:

* Q = waterMass ( finalTemperature – initialTemperature ) x 4184
* waterMass is water weight in kilograms
* finalTemperature and initialTemperature are temperatures in Celsius
* Q is the results in Joules

“The joule is a derived unit of energy in the International System of Units. It is equal to the energy transferred to (or work done on) an object when a force of one newton acts on that object in the direction of the force's motion through a distance of one metre (1 newton metre or N·m). It is also the energy dissipated as heat when an electric current of one ampere passes through a resistance of one ohm for one second. It is named after the English physicist James Prescott Joule.” ("Joule", Wikipedia, 2024)

**Assignment Requirements and Grading:**

* This assignment is due by **Sunday, 11:59 p.m., CST**.
* Add the necessary documentation as described in [Documentation Requirements](https://cyberactive.bellevue.edu/bbcswebdav/xid-99483471_4) [Click for more options](https://cyberactive.bellevue.edu/webapps/blackboard/content/listContent.jsp?course_id=_534132_1&content_id=_16476571_1&mode=reset#contextMenu) .
* Submit your .java file(s) by clicking on the Assignment Link above, then scroll down to the Upload Files section and click on Browse Local Files. Select your assignment file(s), add any links as appropriate, add the URL to your GitHub repository in the comments area, then click on Submit.
* Additionally, save your java file(s) to your CSD/CSD-402/module-1 directory. Stage, commit and then push the file(s) to your GitHub repository.
  + Click on the following link for instructions: [GitHub Stage, Commit, and Push.pdf](https://cyberactive.bellevue.edu/bbcswebdav/xid-101703982_4) [Click for more options](https://cyberactive.bellevue.edu/webapps/blackboard/content/listContent.jsp?course_id=_534132_1&content_id=_16476571_1&mode=reset#contextMenu)
* To view or print the grading rubric for this assignment, click on the following link: [Programming Rubric](https://content.bellevue.edu/cst/csd/rubricprogrammingv2.pdf).