ChE263 – Preliminary Activities for Group Project #1

Turn in one copy per group

The first project takes the place of an exam on programming. It is a program for the design of heat exchangers to transfer heat between process streams. The equations are contained in the problem statement and data should be retrieved from the DIPPR database or the tables below.

1. Organize into a group of 3 and decide on a team name

   a. Member 1:

   b. Member 2:

   c. Member 3:

   d. Team Name:

2. Review the Heat Exchanger items below:
   a. Problem Statement
      http://apmonitor.com/che263/uploads/Main/heat_exchanger_project.pdf
   b. Thermophysical Property Information (Excel)
      http://apmonitor.com/che263/uploads/Main/project_thermophysical_properties.zip
   c. Sample Solution (for checking work)
      http://apmonitor.com/che263/uploads/Main/heat_exchanger_sample_solution.pdf
   d. Leadership Assessment: You are also required to individually generate a leadership evaluation that will be turned in with your project. This leadership assessment is composed of individual goals and an assessment on improvement. Instructions and examples are provided below.
      http://apmonitor.com/che263/uploads/Main/leadership_assessment.pdf

3. List the major steps of the project code (high-level pseudo-code).

4. Write a program that continually loops, asking the user for additional temperature values with units of measure (F, C, K, R). End the loop when the user inputs a blank or non-numeric value. Sequentially plot the temperature values versus the time they were entered (start from 0 sec). Report the average (mean), maximum, and minimum temperatures. All temperatures should be reported in Kelvin, regardless of the units that were input.

Sample Input:

What are the units of measure? (F, R, C, K): F
Input data or Empty Entry to End
Input temperature (F): 32
Input temperature (F): 34
Input temperature (F): 38
Input temperature (F): 42
Input temperature (F): 46
Input temperature (F): 52
Input temperature (F): 43
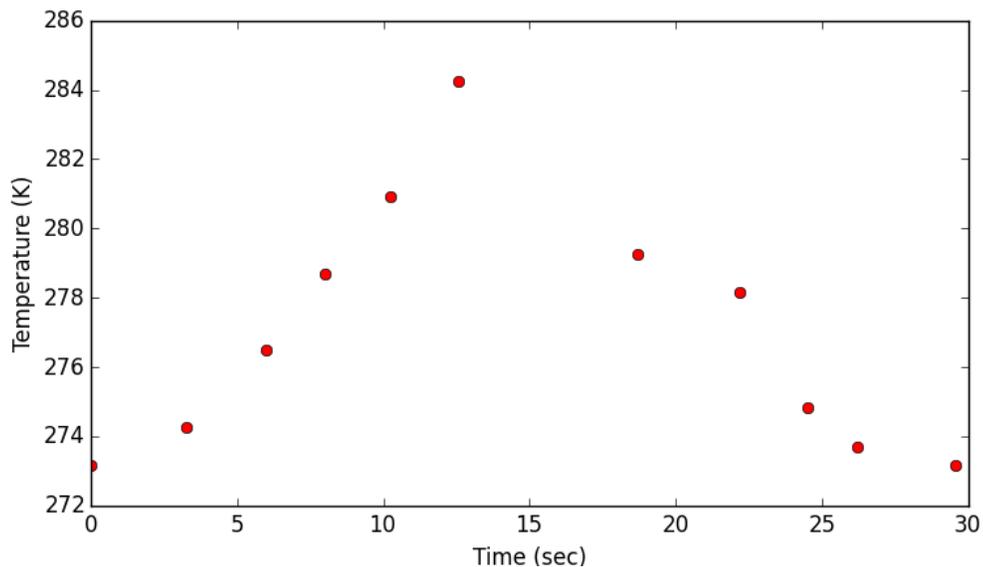Input temperature (F): 41
Input temperature (F): 35
Input temperature (F): 33
Input temperature (F): 32
Input temperature (F):

Sample Output:

Max: 284.2611 K
Min: 273.15 K
Average: 276.9884 K