We use OOD/OOP to facilitate reusability and maintenance of our software, so we would like you to demonstrate your ability in OOP by addressing the following issue.

For one of our sensors we need to be able to control and monitor a cryogenic cooler. The cryo-cooler controller only understands mV (millivolts) - the setpoint temperature and the temperature readouts are both in units of mV. The user works in units of degrees Kelvin. We need you to:

- Create a class that contains the following method (there can be other methods as needed)
  - Constructor / destructor
  - Create a function *convertmVtoK* - which will convert mV values into degrees Kelvin
  - Create a function *convertKtomV* - which does the inverse, converts degrees Kelvin to mV
- This will be part of a real-time system with limited resources, and the methods will be called periodically, say at 10 Hz, so the functions need to be fairly efficient.
- The software should be developed with an eye towards maintenance. Put yourself in the shoes of the programmer who follows you.
- I would suggest being able to read the table from a file so that if we get better conversion data we can simply update the data file, or if we want to use the code for a different controller, we would simply use a different file.
- Also, if you are using a file, it should only be read once on startup after that the functions will be called many times.
- Here is a link to the calibration table from the manufacturer specification document that relates mV to degrees K https://www.lakeshore.com/products/cryogenic-temperature-sensors/silicon-diodes/dt-670/pages/Specifications.aspx
- Test at the following conditions:
  - mV = 85.023, 628.302, 892.35, 1725.0, 1600.2, 1050.13
  - K = 1.23, 1.34, 1.40, 2.1, 3.5, 4.0125, 40.125, 401.25, 505.13