1. (20 points) Figure 1(A) shows a generic signal block like the one we talked about on Monday. Here you will use this design block concept to construct a complete circuit.

The AD590 is a small temperature sensor that outputs 1 mV/K. Assume that the AD590 will be used in the circuit shown in Fig. 1(B). The circuit block (C) represents this AD590 circuit block. Using this circuit block, along with the other circuit blocks shown in Fig. 1, construct a circuit that takes the output from block (C) and generates a signal that is 1 V at room temperature (25 °C). This signal will have to be able to drive a 1 kΩ load, so plan accordingly. Also, you can assume that any temperature changes faster than once per second are just noise–filter them out of the signal. Explain your design choices. Note, you may not use all of the blocks, and you may use some more than once.

I expect solutions to be collaborative in nature. Remember to cite your sources, including each other. Points are awarded for completeness and correct explanation, not for individuality or uniqueness.
Figure 1: Circuit design blocks.