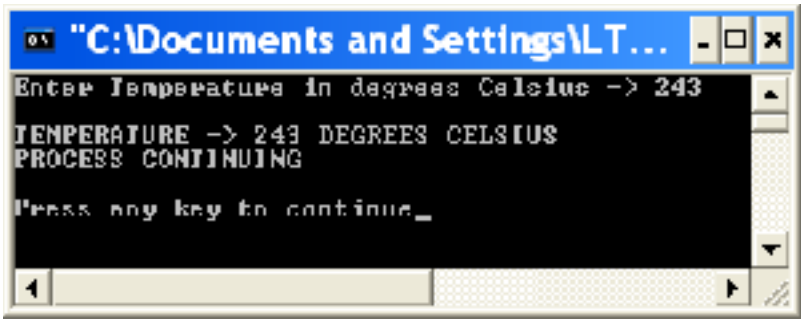
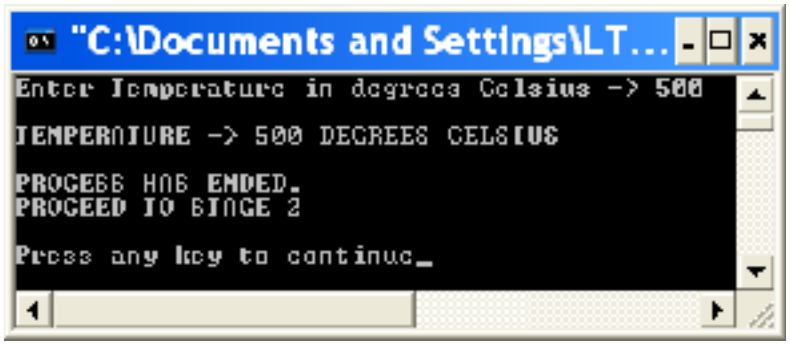
DAT8921 Lab 4

1. You are a technician working in a chemical processing plant. Write a C++ program that will simulate the monitoring of the temperature of a chemical process. For this problem, assume that two scenarios exist. If the temperature of the system reaches 500.0 degrees Celsius, print out a message to the technician to indicate that the process has ended and that the next stage should begin. If the temperature has not reached 500 degrees, operate as normal. Also, since only a simulation of the readings of a temperature sensor is available (i.e. user entry), assume that no values above 500 degrees Celsius will be entered.

Interaction with the user should resemble the following:

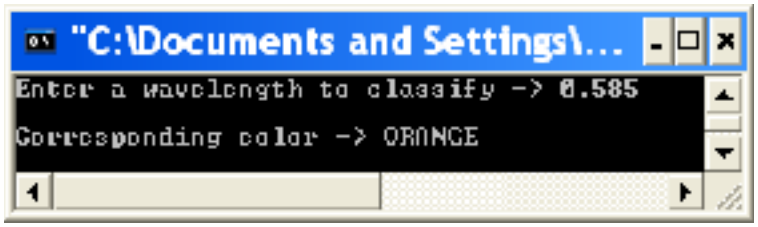


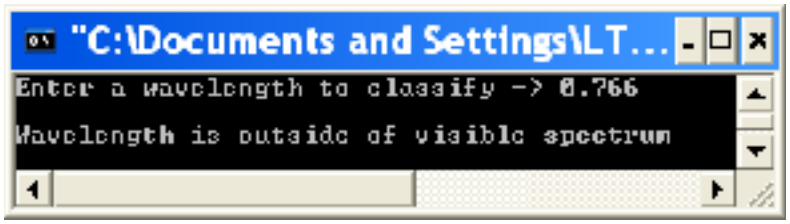


2. Write a C++ program that prompts a user for a wavelength, and then prints out the color of the visible spectrum that the wavelength corresponds to.

Color	Wavelength range [mm]
Violet	0.400 – 0.423
Blue	0.424 – 0.490
Green	0.491 – 0.574
Yellow	0.575 – 0.584
Orange	0.585 – 0.646
Red	0.647 – 0.700

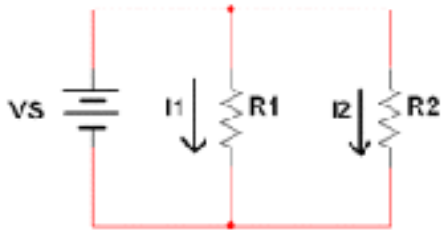
Interaction with the user should resemble the following:





3. Refer to the circuit in figure 1. Write a C++ program that prompts a user for values for VS, R1 and R2. Then, prompt the user for a branch current, I1 or I2, for which they would like to solve for. Use an if selection structure in order to enable the user's choice.

figure 1:



Interaction with the user should resemble the following: