Modeling Project #1

Many home central heating systems consist of a furnace controlled by a thermostat. The thermostat is a switch that turns the furnace on when the temperature drops below a set minimum and turns the furnace off when the temperature rises to a set maximum. Here's a practical question that people face at this time of year: Is it best to keep the same thermostat settings at night or to lower the settings for part of the night? Develop and analyze a model to address this question. Make a recommendation based on your model for a typical single-family house in Tacoma during February.

You should analyze this situation and write a technical report as if you are a consultant who has been hired by the local utility company to make a recommendation. Assume the readers of the report have some technical background but have not anaylzed this specific question. Since you have a deadline for this report, you should develop a model that is simple enough to give some results and complex enough to give meaningful results. Your report can include comments on the strengths and weaknesses of your model and suggestions for improving the model.

This project is due on Monday, February 20.