Test 4 Reflections

This test covered various objectives in the heat transfer course such as: Apply the concept of thermal circuit to solve one-dimensional combined mode of heat transfer problems and solve force convection problems using different experimental correlations. For homework for this unit the objective covered was solve simple convection heat transfer problems. For the test we had to solve for the heat loss and mass flow of given question. To solve for this kind of problem we need to do iterations of equation to solve for heat loss (Q) and mass flow rate (m). We need heat loss first to calculate mass flow rate but we can solve for both with the right equation and iterate then compare percent difference/error. I knew we had to iterate to solve for Q and then m but the way I did it was wrong. I assumed for ho first then went to compute for heat loss (Q) and mass flow rate (m). When I should have assumed mass flow rate (m) then iterate to solve for heat loss (Q) and new mass flow rate (m). Then compare results, where as I was comparing results for new h0 and old h0 which was incorrect. I should have assumed mass flow rate but I thought that the assumption of where I would assume mass flow rate was too subject able and I didn't have a starting guess where as when I assume for h0 I have tables in the book (p.25) and the appendix which I felt were more easy to assume for since I could pick a h0 that made sense for the problem. If I were to take the test again I would try a different iteration process where I would start with assuming a mass flow rate value because that's the right iteration step to get heat loss and mass flow rate.

If I were to give myself a grade it would be a C. I learned that iteration and manipulations of equations are very important for engineering. I believe engineers use iterations and manipulating equations to get values quite often. Last month for my senior design project we met with 2 naval architect's/ marine engineers and he iterates using spreadsheets very often to get values of which he wants to know that way he can find what value he is looking for such as a angle of attack for example. I think no matter what field of engineering I go into I will encounter problems using heat transfer. I believe what we are learning is important for my professional career the FE exam has a heat transfer unit and passing the exam is the first step into becoming a Professional Engineer. All the skills I'm learning in this class such as attacking problems and the theory behind heat transfer modes will be needed for any questions on the FE that involves heat transfer. I applied the concepts in this course for the FE prep class that I'm currently enrolled in. Even though I did not get the right answer I knew that we had to iterate to find the answer, I believe if I keep practicing iterations to solve for these kinds of questions I can improve that skill. I can see this course intersecting with my career as when the naval architect/ marine engineer showed us how to iterate in excel to solve for possible angle of attacks for our senior design project. He showed us that it was a great way to start looking for angles and values and he does this work everyday.