ESCI7205 hw7

**due Th., Oct. 20, 2011.**

**Part A:**

1) We are going to finish our map.

a) Add color shaded topography to the map.

b) If you did not do this already, explain clearly what each of the GMT calls is doing by reading the man pages or examples in the documentation and describing what each program and switch does in your own words – do not just print out the man page. I also want to know why you selected the values you selected (eg scale, symbol sizes, offsets, etc.) .

Intro to Matlab.

2) Use the internet to find the maximum and minimum temperatures for your home town or the capital of your home country over a recent 7 day period. Enter this into a file with one line per day, where each line has the minimum and then the maximum temperature. Write a Matlab program to calculate the average high and low temperatures and the standard deviation of these two data sets. Make a new matrix with the temperature difference from the average (the difference of the highs from their average, and the difference of the lows from theirs). Find the maximum and minimum values of this new matrix (not each column, the whole matrix). Vectorize your program, no loops allowed.

3) Write a Matlab program to plot a circle (whole program can be done in 1 line, although it is not very explanatory). Vectorize your program, no loops allowed.

Hint: everything in terms of Matlab programming techniques/ideas that you need for questions 2 and 3 is found in the magic matrix example, the pages with matlab function names, and the 4 pages of examples at the end of the class notes where there are some demos of making data to plot and plotting it. You will have to find the appropriate functions, but there is an example of each technique you need to use. You will have to read the help for some of the Matlab functions mentioned in the notes to find the ones you need to use. It should not be too hard to select which functions you need. If you get stuck, I’ll be back late Saturday night, or you can ask a senior grad student for assistance. Monday and Tuesday are Fall break, but not vacation days. I’ll be in both days.