# Project #4 (40 + 5points) File Processing and Exception Handling

Task 1: (20 points) Write a program that will:

1. Read in from a text file scores.txt in the format as follows, i.e. student name followed by three scores,

*Adam 10 8 9*

*Ben 7 10 8*

*Cathy 9 9 7*

*David 6 5 8*

*Eve 8 9 6*

*…*

(A scores.txt file is attached to this project, however, feel free to add additional items to the file.)

1. We assume scores are in integers, however, in the given data file some may contain errors. Therefore, when data is read in, try to use integer conversion first. If integer conversion raises an exception, try to interpret it as float, and then round the result to integer; if conversion to float also raises exception, treat the score as 0.
2. For each student, calculate the average of three scores, and then create a new file scoresAve.txt as follows:

*Adam 10 8 9 9.0*

*Ben 7 10 8 8.33*

*Cathy 9 9 7 8.33*

*David 6 5 8 6.33*

*Eve 8 9 6 7.67*

*…*

Submit code, input file, and output file.

Task 2 (20 points + 5 bonus) Write a program that will:

1. Prompt user to read in a file named ocean\_temp.txt. Raise exception and terminate the program with proper error message if file not found (i.e. file name entered wrong).
2. Open the file and read in the data to a list. If a data is not a float number, raise an exception and throw it away and continue the program. (Note: you may print out an error message when reading in a wrong data, but don’t count it in the data list.)
3. Multiple each of the data by a scale of 100, and calculate the basic statistics (minimum requirements: highest, lowest, average/mean, standard deviation; encourage you to find out more statistical info.) of the scaled data list.
4. Save the scaled data list plus the statistical data (place the statistical data at the end of file) to a new file. Choose your own file name.
5. Bonus (5 points) Plot the original data list (not the scaled data list) in a graph like the following one (note: graph may vary but trying to reveal as much info as below.)

