**Final Exam: Coding Section (68pts total)**

**Problem 1 (24 pts):**

In the worksheet **Problem 1** of the **CIT130\_Final\_Exam.xlsx** workbook, you will find a table of daily weather data taken at the CVG airport.  Add Excel commands to allow the following operations:

* Data validation to cell K2 to enable the user to look up a valid date from Column A.
* Once the user has selected an element, use VLOOKUP to populate the values in cells K3:K8. Three of the columns (Snwd, Snow, and Wind) have some invalid values indicated by a numerical value of -9999. For invalid values, put N/A in the cell. (Do not alter the original set of data).
* In cell K11, calculate the change in temperature (Tmax – Tmin).
* In cell K12, display “Large” if the change in temperature is greater than 35o, “Medium” if the change in temperature is greater than 5o but does not exceed 35o, and “Small” if the temperature change does not exceed 5o.

**Problem 2 (20pts):** The following vector:

Temperature = [ 35 36 57 72 76 85 87 89 84 72 58 34]

represents the average temperature for a given month. The first value is for January and the last value is for December. There are a total of 12 entries. Use MATLAB or EXCEL to find the number of months with an average temperature greater than 85, the number of months with an average temperature between 65 and 85, inclusive, and the number of months with an average temperature less than 65.

* Regardless of your approach, please be efficient with your coding. This problem can be done by hand, but your coding must be relatively easy to adapt to larger data sets.
* Regardless of your approach the answers should be displayed and identified.

**Problem 3 (24pts):** The maximum daily temperature in degree Fahrenheit for New York City and Anchorage, Alaska during the month of January 2001 are given in the vectors below. There are 31 days in January. The first entry represents January 1, the second entry represents January 2, etc. Write a script file to answer the following: On what day of the month was the first time the temperature in Anchorage was higher than in New York City? Use loops, not predefined MATLAB functions. The answer should be output using *fprintf* statements.

Copy the vectors below and paste them in your script file. Then write your script.

TNYC=[31 26 30 33 33 39 41 41 34 33 45 42 36 39 37 45 43 36 41 37 32 32 35 42 38 33 40 37 36 51 52]

TANC=[30 24 28 25 21 28 46 37 36 20 24 31 34 40 43 36 34 41 42 35 38 36 35 33 42 42 37 26 20 25 31]