Food for thoughts

Many students ask me for some practice questions. I would like to share two such problems. These are specific to our discussion from first 2 weeks of the course.

We talked about command line arguments for a program in c/c++, it is very powerful method. ExCode 1 from shared code.

Practice Problem 1 AlphaPhone

Using command-line arguments, write a program to convert an alphanumeric phone number to its equivalent numeric format. The name of the program should be AlphaPhone. The command line should take arguments as AlphaPhone 111-222-NMC. For example, National Medical Center is 111-222-NMC your program converts it to 111222662 as per the following alphabets mapping.

Letters ABC are equal to digit 2

Letters DEF are equal to digit 3

Letters GHI are equal to digit 4

Letters JKL are equal to digit 5

Letters MNO are equal to digit 6

Letters PRS are equal to digit 7

Letters TUV are equal to digit 8

Letters WXY are equal to digit 9

Practice Problem 2 Max in Given Window

In this problem you are given an array of integers of size n. Another integer k is given as window size (given a subarray from the start of array of size k) you need to find the maximum integer of the window. For example, in the given array a[] = { 2,3,4,1,1,2,3,2,3} of 9 elements, for a given windows size 3 you need to slide the window of array and finds maximum in each distinct window. The windowing in this array return 7 values, each maximum in the distinct window. For example, first window 2,3,4 max is 4, second window 3,4,1 max is 4, third window is 4,1,1 max is 4, etc. the output will be {4, 4,4, 2,3,3,3}