New Beginnings – Summer 2018

C++ Programming - Topic #/User Input Practice

Listed below is a set of practice problems. Select a subset of these to work on over the weekend – depending on where you feel you need to focus.

From the Malik book(6th Edition):

For more practice getting input from standard input(cin):

Chapter 3

Program #3 – page 178
Write a program that prompts the user to enter the weight of a person in kilograms and outputs the equivalent weight in pounds. The output should looks like:

100.00kg = 220.46lbs

Round the output to 2 decimals places.

Bonus points – validate that the input is correct(float compatible). Print out a message if the input is not valid.

Double Bonus points – create an input text file and run the program redirecting the input from the text file to standard input.

i.e
 %./a.out < input.txt

(You'll need to create input.txt.)

Challenge Problem(**arrays of characters, flow control – for/while loops, conditional – if statements**)
Palindrome Checker - DON'T REFER TO THE EXAMPLE IN CHAPTER 6 (unless you get stuck!)

1. Read a string in from the user. (Be sure to read it in safely and not let the user overrun the array of characters that you've allocated.)
2. Check to see if the string is a palindrome by calling a function called isPalindrome.
3. Call the function from main – passing in the string(array of chars) as an argument. The return value should be a bool.
4. Output a message to the user which tells them if the word they entered is a palindrome or not – repeat the word to the user in the output message.

5. Bonus points – improve your program to check if a sentence is a palindrome – while ignoring spaces and tabs.

   a. Example: A Santa at Nasa

6. Double Bonus points – allow the user to continue to enter words/sentences until they give the "EOF" character. (Look this up in the book.)

   a. By doing this, you can create a file with a list of words and sentences and give it to the program as standard in. The program will then check each line for being a palindrome.

Chapter 6
Problem 7a-h
Problem 9a-e
Problem 13 a&b
Problem 22 a-d

Program 6