Algorithms and Data Structures I - Fall 2018 - Programming Assignment 1

Directions: This assignment will be demoed in lab on Thursday, October 11th or Friday, October 12th.

Task 0: C++ Development Environment Setup Familiarize yourself with a C++ development environment. In the laboratories, CLion is installed under Windows. As an alternative, you may choose any other C++ IDE or command line environment.
Assignment Details: First, get a "Hello World" program up and running:

```
#include <iostream>

using namespace std;

int main () {
    cout << "Hello, World!" << endl;
    return 0 ;
}
```

Notes and Links With a JetBrains account for students (https://www.jetbrains.com/student/), you may download CLion for free and use it. To create your student Jet Brains account, use your @hm.edu e-mail address.

Note for CLion on your personal Windows machine: The bundled CLion CMake may cause problems. Learn how to use the CLion on Windows properly using this guide: https://www.jetbrains.com/help/clion/quick-tutorial-on-configuring-clion-on-windows.html#d607065e239

Task 1: Implement Maximum Subsequence Sum using C++ Based on the pseudocode presented during lecture, use the C++ programming language to implement all three variations of the Maximum Subsequence Sum algorithm. Include at least 5 test cases for each implementation. Design your test cases to carefully exercise boundary conditions.

Your implementation must use Standard ISO C++ with the standard library. You may choose your own style conventions, but make sure that your code is clear and consistent.

Your test cases should be hardcoded into your main function. Here is an example main function (supposing that the function "cubic_mss" implements the maximum subsequence sum using the cubic algorithm):

```
int main () {
    static const int arr1[] = {1, 2, -30, 4, 5};
    int mss1 = cubic_mss(arr1);
    cout << mss1 << endl;

    //more test cases here

    return 0;
}
```

In this example, 9 should be printed.

Submission Guidelines

Use the course GitHub "classroom" to submit all work. https://classroom.github.com/a/aVmO0Yvk