C++ Programming Sections 1782 & 4075

Deadline March 2, 2021 by 8:00 AM PST

Programming Assignment 1 (12 Points):
C++ Integrated Development Environments (IDEs), Compilers, and Canvas

Assignment Introduction:
There are two parts to assignment 1. Part 0 is self explanatory. Part 1 is to provide you with an opportunity to use some of your C skills by programming in C++ and to give you time to install the tools needed to complete programming assignments in this course.

Choose a platform (MacOS, Win, Linux, etc.) to write your first C++ program. To complete future assignments you will need a working build-system (text-editor, compiler, linker, etc.). The source files, not the executable, will be submitted on Canvas. The assignments will be graded on Windows so please ensure your code works on this platform.

Part 0 (2 points): Canvas & Zoom Profiles:
Add a profile picture or personal photo/graphic to both your Zoom & Canvas accounts and fill out the Canvas Biography section with links to your own personal professional website (e.g. github, linkedin, personal portfolio page, etc.) if available.

Part 1 (10 points) A simple C++ program:
In part 1 you will write a program to compute the average of five space separated numbers input by a user on the command line. Your program only needs use **cin** and **cout** for input and output. Use **std::setprecision(2)** and **std::fixed** from the <**iomanip** > library to output two decimal places. Refer to the example usage and sample output on page 2 of this handout for more details about how to code your program.

Where to do the assignment
You can do this assignment on your own computer, or using the SMC Virtual labs with Citrix. In either case, ensure the code compiles and runs on Windows. Submit one **.cpp** file named **A01.cpp**. Do not use any other name or else points will be deducted.

Submitting the Assignment
Include your name, your student id, the assignment number, the submission date, and a program description in comments at the top of your files, and use the CS52 Programming Guide for coding style guidance. Submit the assignment on Canvas (`https://online.smc.edu`) by **uploading your .cpp file** to the Assignment 1 entry as an attachment. Do not cut-and-paste your program into a text window. Do not hand in a screenshot of your program's output. Do not hand in a text file containing the output of your program.

Saving your work
Save your work often on a flash-drive or to the cloud (e.g., GoogleDrive, Microsoft OneDrive, Canvas, etc.). Always save a personal copy of your files (e.g. .cpp, .h, etc.). Do not store files on the virtual lab computers.

Program Description and Functionality: Provide the following in your source file:

1. Comments at the top of your **.cpp** file.
2. A main function that accepts input from users using **std::cin**
3. **Use only C++ headers** that place all standard-library routines in `namespace std`. For standard input and output use `#include <iostream>` to access `std::cout;std::cin` and `#include <iomanip>` for stream formatting functions like `std::setprecision(NUMBER_OF_DECIMAL_PLACES)` and the manipulator `std::fixed` to ensure decimal notation is output.

Example usage:

```
>A01.exe
Enter five space separated numbers to compute their average:
1 2 3 4 5
The average of {1 2 3 4 5 } is 3.00
Enter any key to exit:

>A01.exe
Enter five space separated numbers to compute their average:
1.88 2.22 3 10.5 .5
The average of {1.88 2.22 3 10.5 0.5 } is 3.62
Enter any key to exit:

>A01.exe
Enter five space separated numbers to compute their average:
10 50 100 150 200
The average of {10 50 100 150 200 } is 102.00
Enter any key to exit:
```

Skeleton code

```
//
// Name: Your First Name & Last Name
// SSID: Student ID Number
// Assignment #: 1
// Submission Date: 3/2/21
//
// Program Description: This program prints the
// average of five numbers input by a user.
//
#include <iostream>
#include <iomanip>

int main(int argc, char *argv[])
{
        ....your code goes here

}//main
```

References:

- Microsoft C++ Language Reference
- ISO C++ Standard Library and other refs
- C++ setprecision on cplusplus.com