# Advanced Object Oriented System Design Using C++

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## Assignment 1

### Overview

This is a straight-forward, easy-to-do first C++ assignment.

### Task

The purpose of this program is a write a program that reads in score records from standard input and outputs such to standard output as follows:

- each score record is composed of a first name, last name, and score
- each field and record is delimited by whitespace
  - i.e., in particular, first and last names cannot contain whitespace
- each score is an unsigned integer

Your program is to read in as many score records as is possible, i.e., keep reading score records until an end-of-file or the stream fails, or goes bad. After each record is read in, write it out immediately to standard output as follows:

- each record output must be followed by a newline character,
- between each field written must be a single space, and,
- the fields must be written out in this order: first name, last name, score.

The score record must be declared as follows:

```
struct score
{
  std::string first_name_;
  std::string last_name_;
  unsigned int score_;
};
```

and you must write suitable IOStream operator overloads to read from std::cin and write to std::cout each score. To help you with this, see the p3.cxx program from the lecture (which is also linked to below) and model your code after the code in that program. (NOTE: These overloads are the ONLY functions you can access any of the members of score.)

Remember to #include all needed #include files, etc. Your program must be a valid C++20 program and you are not allow to use any C-language methods to accomplish the same.

### How To Compile Your Code

SSH to cs340.cs.uwindsor.ca and using GCC or clang as follows (assuming the code is in a file called a1.cxx):

- **Using GCC:** g++ -std=c++20 -Wall -Wextra -Wold-style-cast -Werror a1-soln.cxx

If there are no errors output, the executable file generated will be called a.out (unless you also gave the compiler a filename with the **-o** option.) It is noted here that there is nothing in the code that requires it to be C++20 --this assignment could be written using C++98 (i.e., the first standard).

### Sample Program Input File

Consider this input file a1-input.dat:

```
$ cat a1-input.dat
charlie brown 56
sally brown 63
lucy van_pelt 89
linus van_pelt 67
snoppy dog 100
woodstock bird 112
$
```

## Submitting Your Assignment

When you are done upload your **C++ source code file** to this page. Be sure to download it from this page after uploading it to double-check you uploaded the correct file!

p3.cxx 19 January 2021, 5:17 PM

## Submission status

| | |
|---|---|
| **Attempt number** | This is attempt 1. |
| **Submission status** | Submitted for grading |
| **Grading status** | Not marked |
| **Due date** | Thursday, 28 January 2021, 11:59 PM |
| **Time remaining** | 1 day 14 hours |

**Grading criteria**

This rubric is a general rubric for compiled programming languages.

Normally the marker will adhere to the rubric, but, the marker reserves the right to add/subtract marks based on the quality of the work provided. (Such overrides will be noted in the feedback comments.)

| | | | | |
|---|---|---|---|---|
| **Late Penalty (Deduction)** | Late. All marks deducted.<br>***-10 points*** | Late but submitted within 24 hours of deadline or late with minor deduction.<br>***-2 points*** | Not late or late without penalty (as decided by or with permission of instructor).<br>***0 points*** | |
| **Compiler Warnings (Deduction)** | Too many compiler warnings.<br>***-2 points*** | Some compiler warnings.<br>***-1 points*** | No compiler warnings.<br>***0 points*** | |
| **Compiler Errors (Deduction)** | Code fails to compile due to compiler errors.<br>***-10 points*** | No compiler errors.<br>***0 points*** | | |
| **Packaging** | Not all files are provided and/or not all targets are built cleanly and completely.<br>***0 points*** | All files are provided. All targets are built cleanly and completely.<br>***1 points*** | | |
| **Code Structure, Names, and Comments** | Poor code structure, meaningful symbol names, and comments.<br>***0 points*** | Satisfactory code structure, meaningful symbol names, and comments.<br>***1 points*** | | |
| **Actual or Possible Run-Time Errors** | Too many run-time errors occur or can occur.<br>***0 points*** | A small number of minor run-time errors occur or can occur.<br>***1 points*** | No run-time errors occur or can occur.<br>***2 points*** | |
| **Unit Tests** | Too many tests (provided or not) don't pass having input or output processing and correctness issues.<br>***0 points*** | Some tests (provided or not) pass and have no input or output processing and correctness issues.<br>***1 points*** | Most tests (provided or not) pass and have no input or output processing and correctness issues.<br>***2 points*** | All tests (provided or not) pass and have no input or output processing and correctness issues.<br>***3 points*** |
| **Assignment Requirements Conformance** | Too many requirements were not successfully implemented.<br>***0 points*** | Some requirements were successfully implemented.<br>***1 points*** | Most requirements were successfully implemented.<br>***2 points*** | All requirements were successfully implemented.<br>***3 points*** |

**Last modified** Wednesday, 27 January 2021, 9:47 AM

**File submissions** A1.cxx 27 January 2021, 9:47 AM

**Submission comments** ▸ Comments (0)

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