CS1337 Assignment 1

Spring 2019

Sum of a Series

Write a program in C++ that sums a simple series. Here are the criteria.

1. The program requests a number greater than 1. If zero is entered, the program stops. If a number equal to 1 or less than 0 is entered, the program should give an error and return to request another number. The same is true for entering anything other than a number. Your program should not crash or do strange things if you enter the letter A when it asks for a number.
2. If the number entered is N, sum the series 1/N + 2/N-1 + 3/N-2+ … +N/1. Display the original number and the sum.
3. Return to request another number.

The objective of this program is for you to demonstrate your knowledge of loops, conditionals, and computation in C++. Try to write this with the fewest number of variables and lines of code as possible. Test the program with small numbers where you can compute the result by hand.

**To hand in:** Turn in the .CPP file of your program through eLearning. Name the file with your **netID** followed by **Asg1**. For example, if I turned it in, the name of the file would be jxc064000Asg1.cpp.

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| --- | --- |
| **Grading Criteria** | |
| Program meets the above requirements | 50% |
| Program is well structured, using functions where appropriate, etc. | 40% |
| Program comments | 10% |

All programs must have comments. At a minimum, you must have a header comment before anything else in the .CPP file that looks something like this: (Actual comments from one of my programs.)

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\* Scantron Grading Program.

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\* This program reads a tab-delimited file of answers as created by exporting

\* Scantron data for a test and writes the grades. The input file has the

\* following format:

\* Line 1: Headers, which are ignored.

\* Line 2: Correct answers. If multiple answers are allowed, they will be in

\* parentheses. For example: (A,C).

\* Line 3: Points per correct answer. This may be fractional.

\* Lines 4-n: The actual data. This will have the ID number in the first

\* column, followed by the student's answers.

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\* The output is a file with the same name as the input file with the letter

\* "A" appended, and contains the ID and the score as tab-separated values.

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\* Written by John Cole (jxc064000) at The University of Texas at Dallas

\* starting October 10, 2016.

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Note that the comments contain a title, a description what the program does, a description of the input, a description of the output, and at the bottom, identification of who wrote it. For programs you write, you should include the course and section. You don’t have to enclose it in a fancy box, but the general contents are required. For complete details on comments, see <http://www.utdallas.edu/~John.Cole/Documentation.htm>