CS1023 Lab March 1, 2011

Recursion

Requirements

A common example of a recursive formula is one to compute the sum of the firsrt n integers. $1 + 2 + 3 + \ldots + n$. The recursive formula can be expressed as $1 + 2 + 3 + \ldots + n = n + (1 + 2 + \ldots + (n\text{-}1))$.

1. Write a *main* function that allows the user to enter the values of n until signaling an end to execution. *Hint*: use -1 as a sentinel. *main* should also display the results of calls to *IterativeSum(n)* and *RecursiveSum(n)*.

2. Write a function that implements the recursive formula to compute the sum of the first n integers. Include a couple of print statements inside the function to display the current value of n and the current value of *RecursiveSum(n)*

3. Write an iterative function to compute the sum of the first n integers.

To be handed in:

1. Copy and paste your source code for Lab March 1 into the submission box on Blackboard.

2. Ensure that your name and student number are included in the comments