**Exerice 4 Report**

**TMA4280 – Introduction to Supercomputing**

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# Introduction

This report details one serial and two parallel versions of a C code that creates a vector, v, where:



And then computes the the sum, Sn:



This sum is compared to the limiting case:



The serial code is parallized by means of OpenMP and MPI. The results of the parallel codes are compared to each other and results of the serial code for P=4 and P=16 threads/processes. Details of the implementation, particularly MPI function calls used in the MPI version of the code, are discussed.

# Serial

Show code snippet, point out "cheat", discuss printout of N as run through from start to finish.

# OpenMP

Basically insert #pragma. If proves necessary, mention having to place code in loop and iterate for each size of N.

# MPI

Talk about function calls, explicitly splitting vector, looping for each size of N.