

Week 2 — Introduction to C++ programming

The goal of the present exercise is to compute π using a converging series.

Exercise 1: π series convergence in C++

We want to exploit the series

$$\pi = \sqrt{6 \sum_{k=1}^{\infty} \frac{1}{k^2}}$$

1. Program the computation of π using this series by using single precision numbers (float) only.
2. Insert a loop in order to output to screen the number of iterations and the approximated value of pi.
3. Why is the series not progressing anymore after 10^6 iterations ?
4. Program the series in reverse (starting with the small numbers). Why is it better ?