

OSM High-Performance Computing: Day 2

Lecture 5 Exercise Sheet I

Harrison Beard

July 12, 2018

1 HPC Basics.

If we have $p = 100$ CPU cores and $1 - f = 0.4\%$ of the code is serial code, then the maximum speed-up we can obtain is

$$\begin{aligned} S(p, N) &= \frac{1}{f + \frac{1-f}{p}} \\ &= \frac{1}{0.96 + \frac{0.04}{100}} \\ &\approx \boxed{1.041}. \end{aligned}$$