Programming Assignment 1 Report

Ziyi (Francis) Yin and Rafael Orozco

February 2021

1 Plots

The plot showing run time with different number of processors (with $N = 80000000$ fixed) is Fig 1 and the one showing run time with different N (with $p = 16$ fixed) is Fig 2. Notice that these are loglog plots. Since these plots are straight lines, with slope -1 and 1, we can conclude that

$$T \propto \frac{N}{p}$$

which means that run time is proportional to number of elements, and inverse proportional to number of processors.

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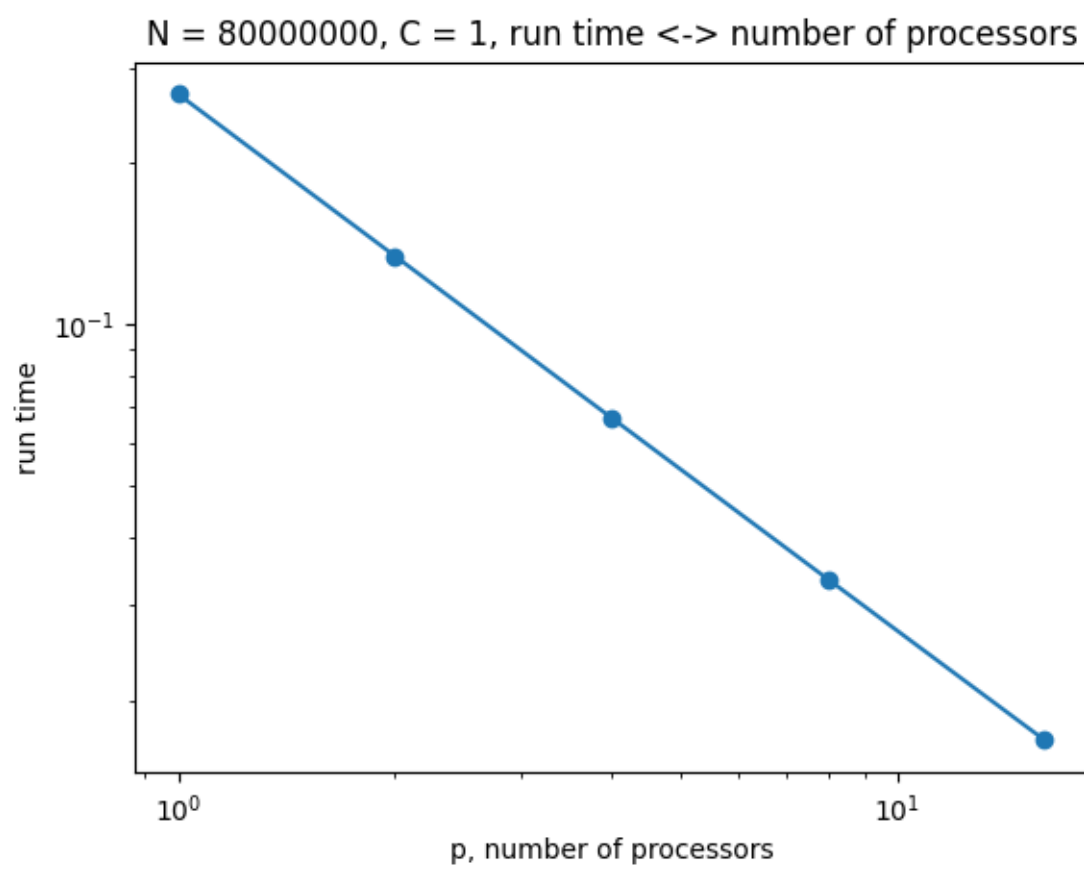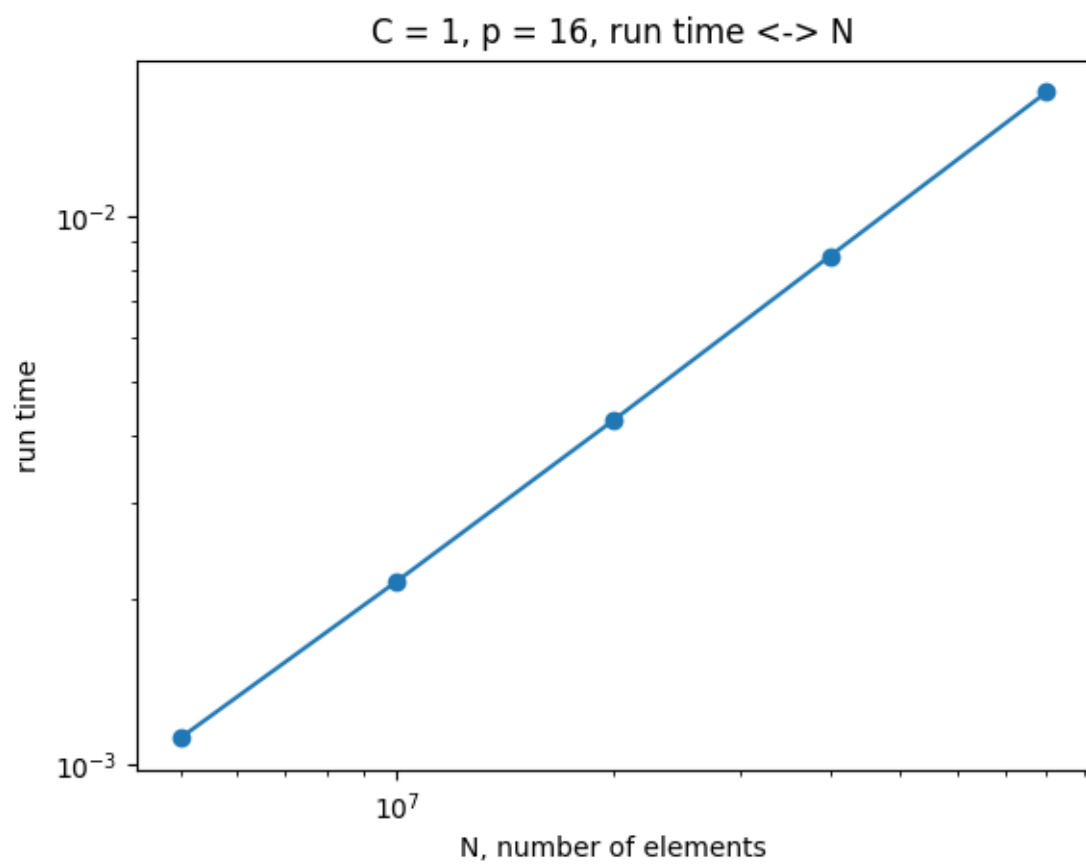
Figure 1: loglog plot of run time and number of processors p

Figure 2: loglog plot of run time and number of elements N