

CX 4220/CSE 6220 High Performance Computing
Programming Assignment 1 report
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The plot of runtime against numbers of processors is as follows: The x axis is in log-scale,

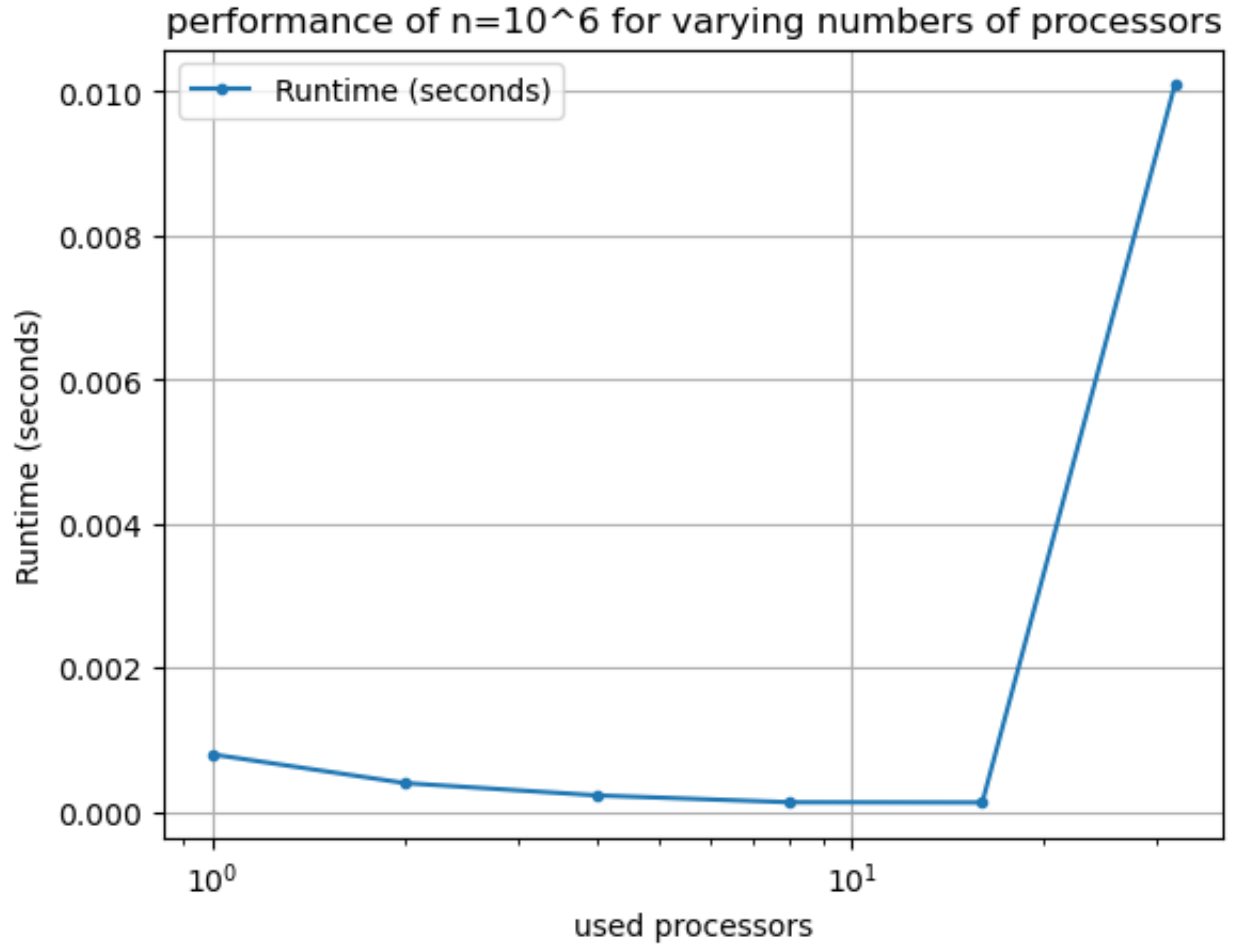


Figure 1: Runtime for varying numbers of processors at $n = 10^6$

and we sampled powers of 2 from 1 up to 32 for the numbers of processors. Since 1 node in the CoC-ICE cluster has 24 processors, up to 16 processors, the runtime decreased as the numbers of processors increased. However, at 32 processors, the runtime increased significantly, probably because 8 processors were located in a different node, and communications between processors in different nodes took much more time than those between processors in the same node.