

Lab Assignment-2

CS 359(2021)

Write a multi-core program for the “all-pairs shortest paths” problem. The input is a weighted graph with no negative cycles and the expected output are lengths of the shortest paths between all pairs of vertices (where the length of a path is a sum of weights along the edges that the path consists of). Write a sequential program (no OpenMP directives at all) as well. Compare the running time of the sequential program with the running time of the multi-core program and compute the speedup achieved

1. for different number of cores and different number of threads per core, and
2. for different number of vertices and different number of edges.