Homework 1
Critical Sections, Locks, Barriers and Conditional Variables

Hannes Rabo, *Information and Communication Technology*, KTH

IN this homework we study performance of different approaches to concurrent computation. It focuses on matrix operations (sum, min and max) as well as approximation for PI.

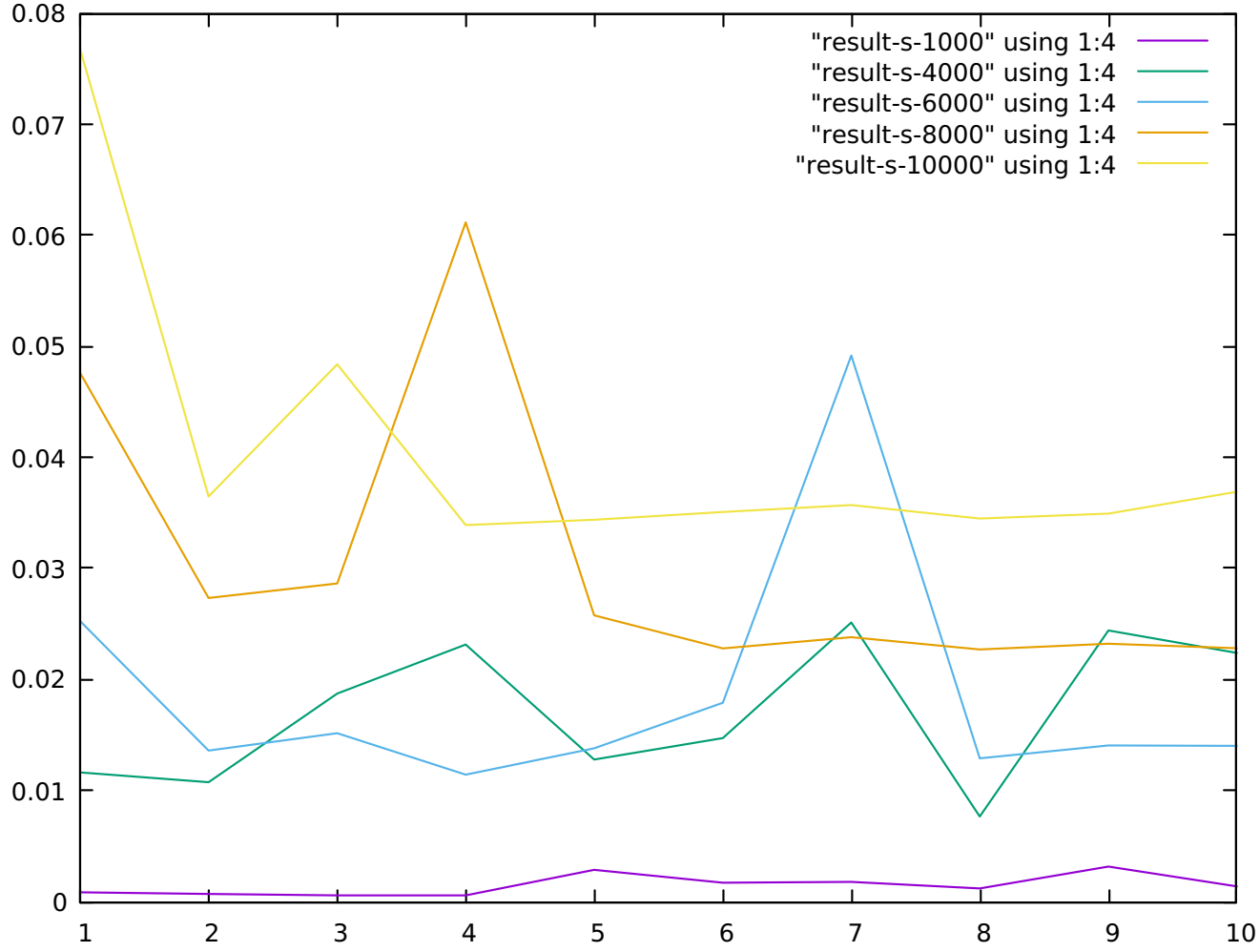

Fig. 1: Execution time as a function of number of workers using OpenMP. Overview

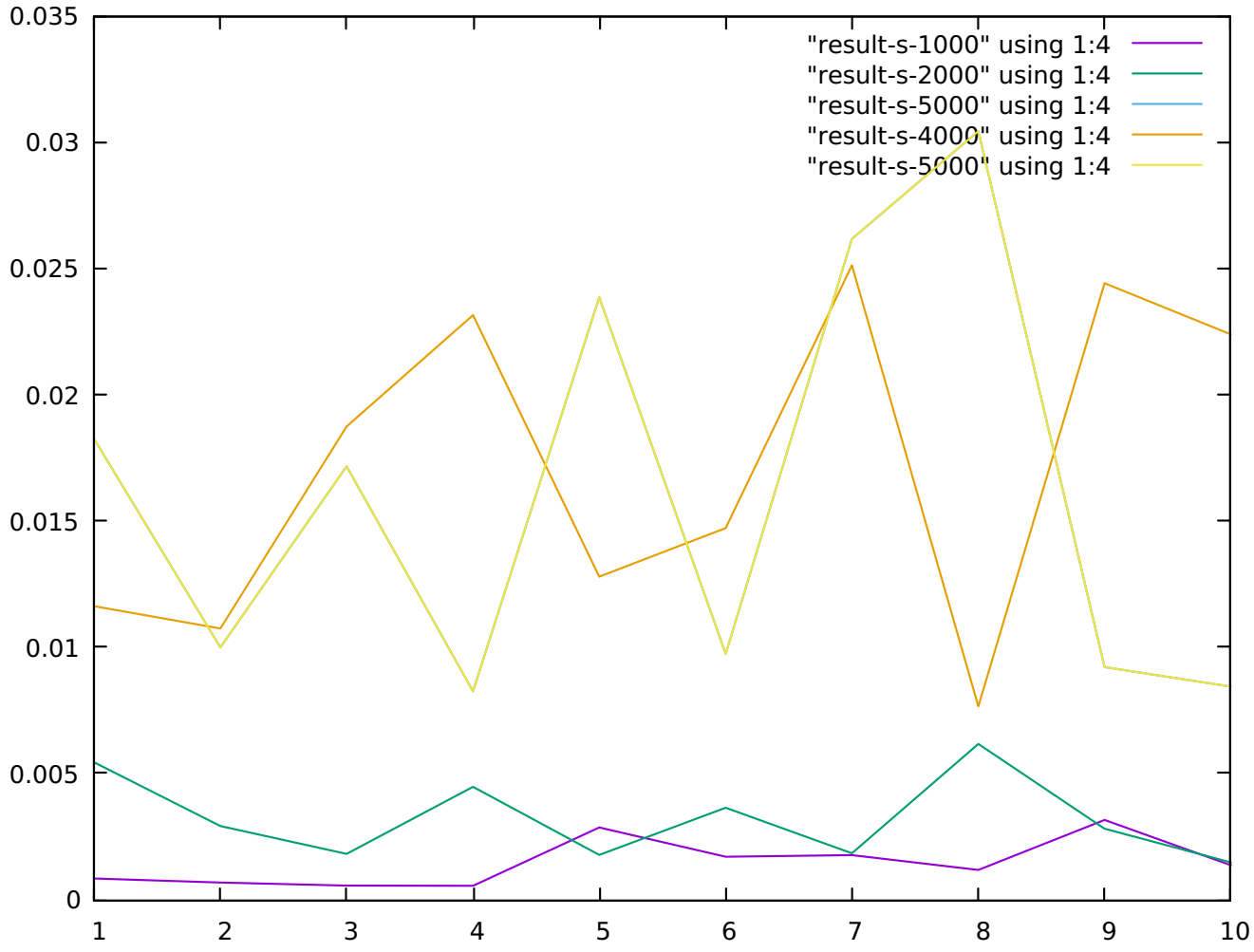

Fig. 2: Execution time as a function of number of workers using OpenMP. Middle region

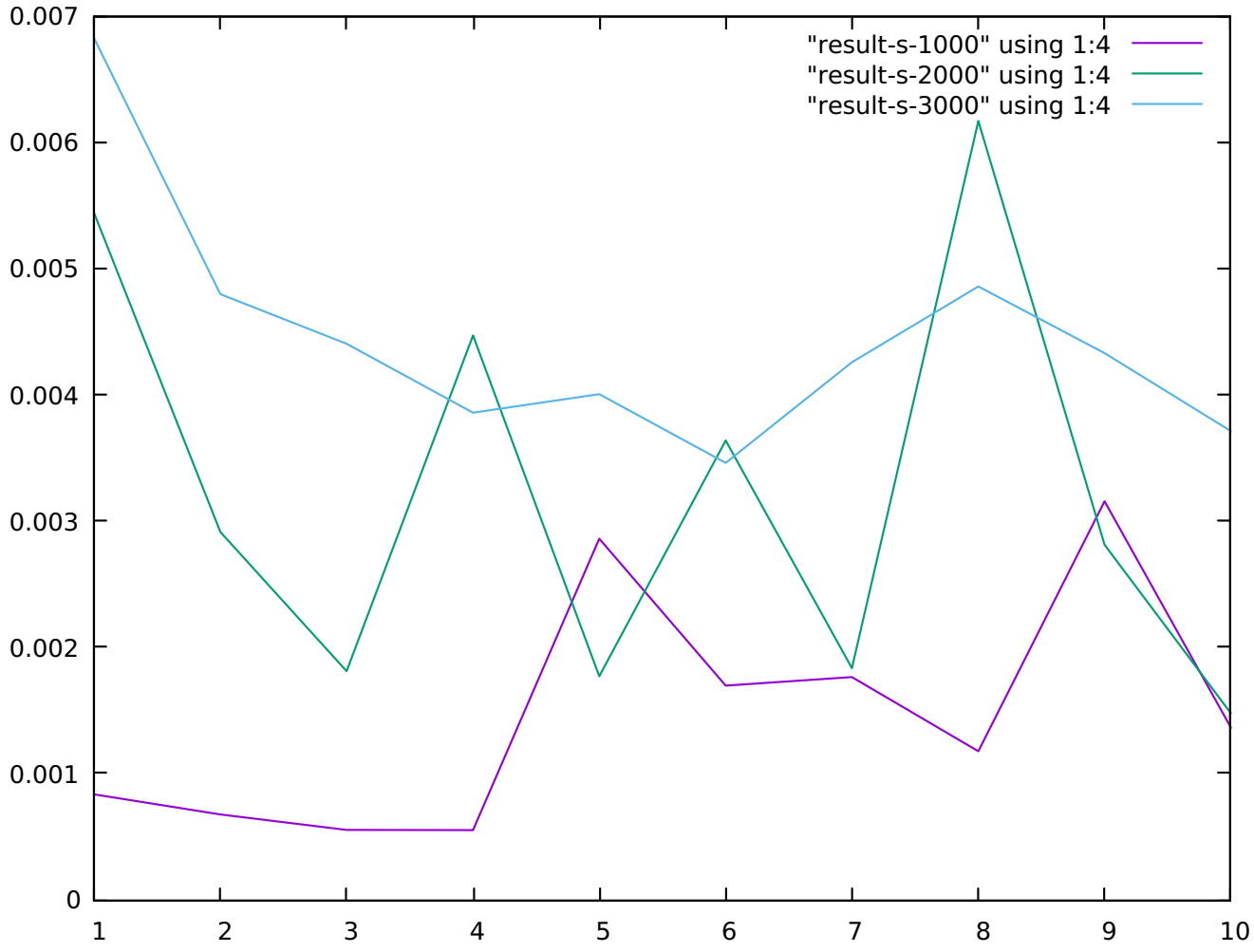

Fig. 3: Execution time as a function of number of workers using OpenMP. Lower region

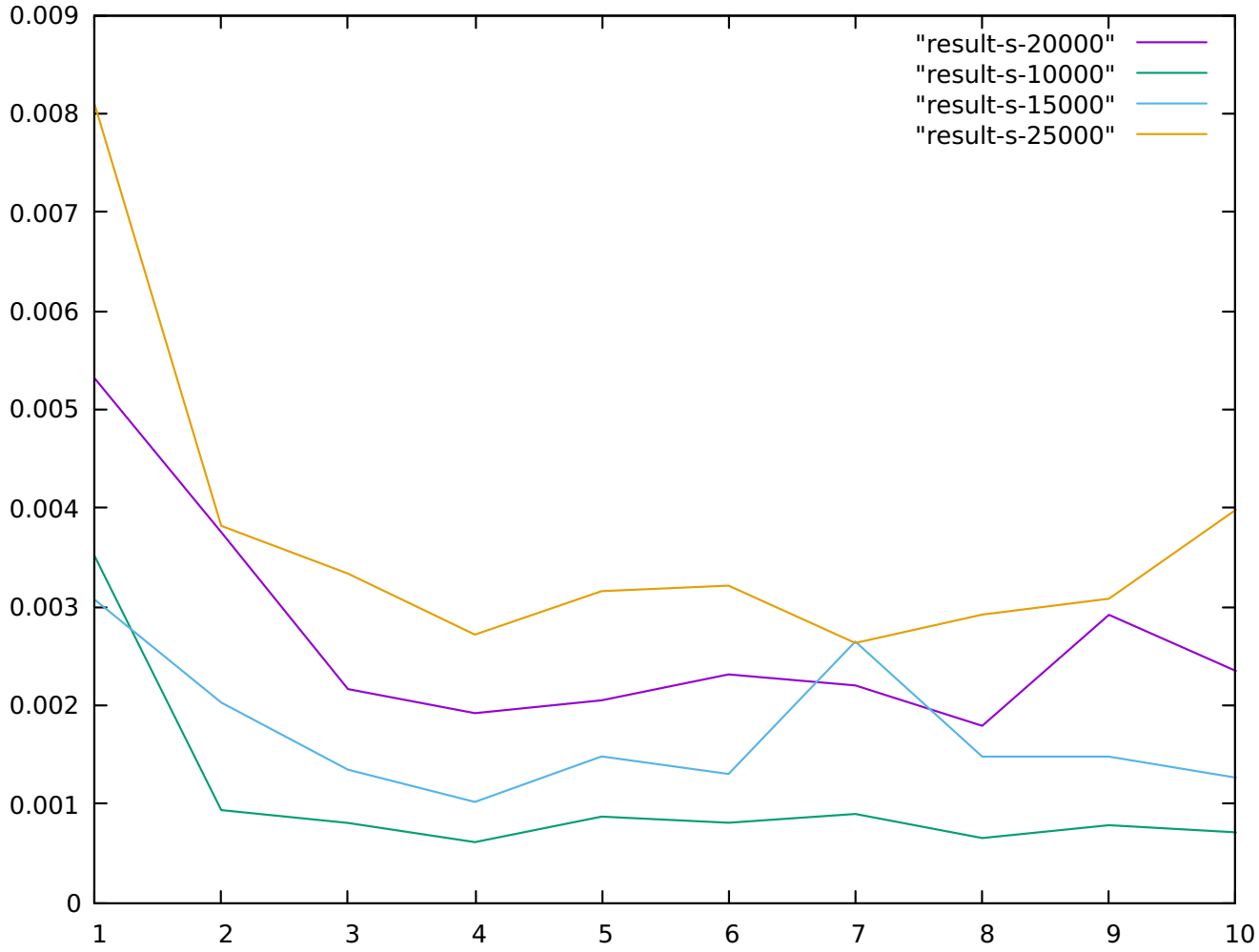

Fig. 4: Execution time as a function of number of workers. Comparison between batch size. Processor with 2 cores and 4 hardware threads.

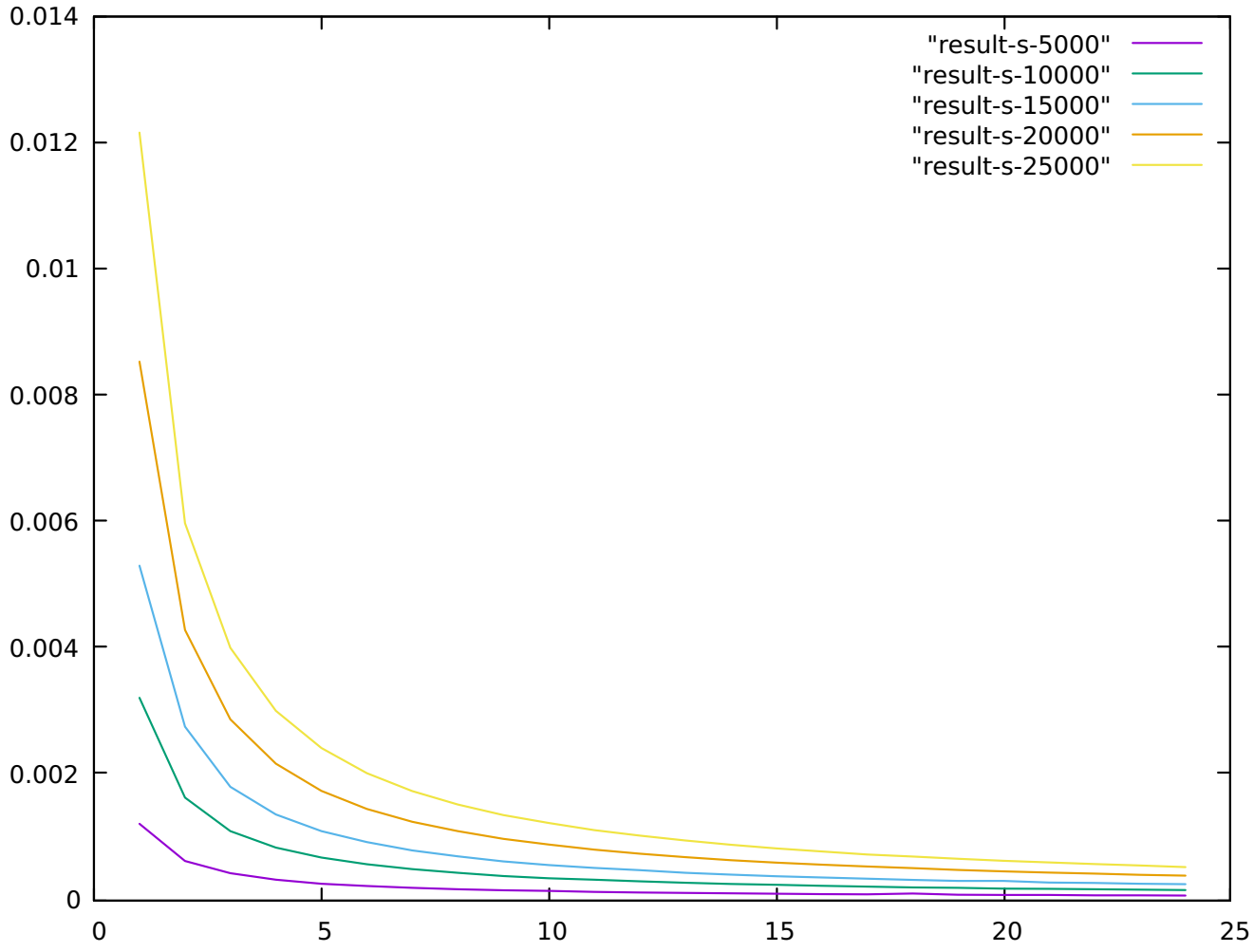

Fig. 5: Execution time as a function of number of workers. Comparison between batch size. Processor with 24 cores