OpenMP Usage and Code Optimization

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The provided serial PI program has a for loop that can be parallelized. We used OpenMP to explore different ways of make this:

- Usage for reduction and private OpenMP clauses.
- Usage for teams and distributed OpenMP clases.
- Usage for num_threads, single and reduction OpenMP clauses.

The results for the experiments are shown in the figure 1. The figure 2 shows the execution time vs the thread's number, in this case our ideal threas number is 3.

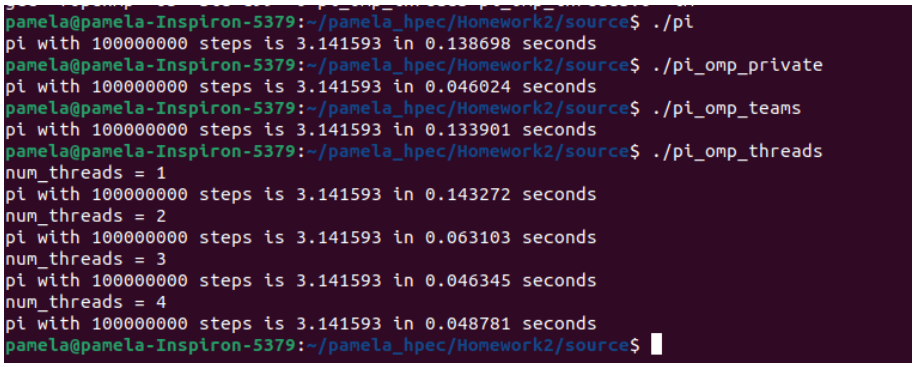

Figure 1: Output of the original code and the parallelized codes

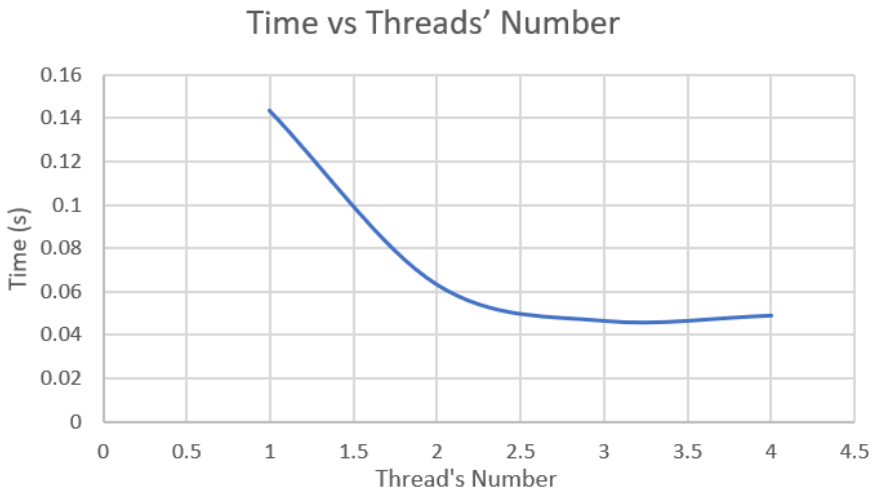

Figure 2: Time vs thread's number