Master 1 MoSIG

Parallel Algorithms and Programming

Lab 2 report

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1 Exercise 1: Matrix Mutiplication

We have the matrix multiplication have the parallel that has been scheduled differently. We observed that the order of the performance is as follows: Dynamic > Runtime > Guided > Static.

Speeding up chart based on observation.

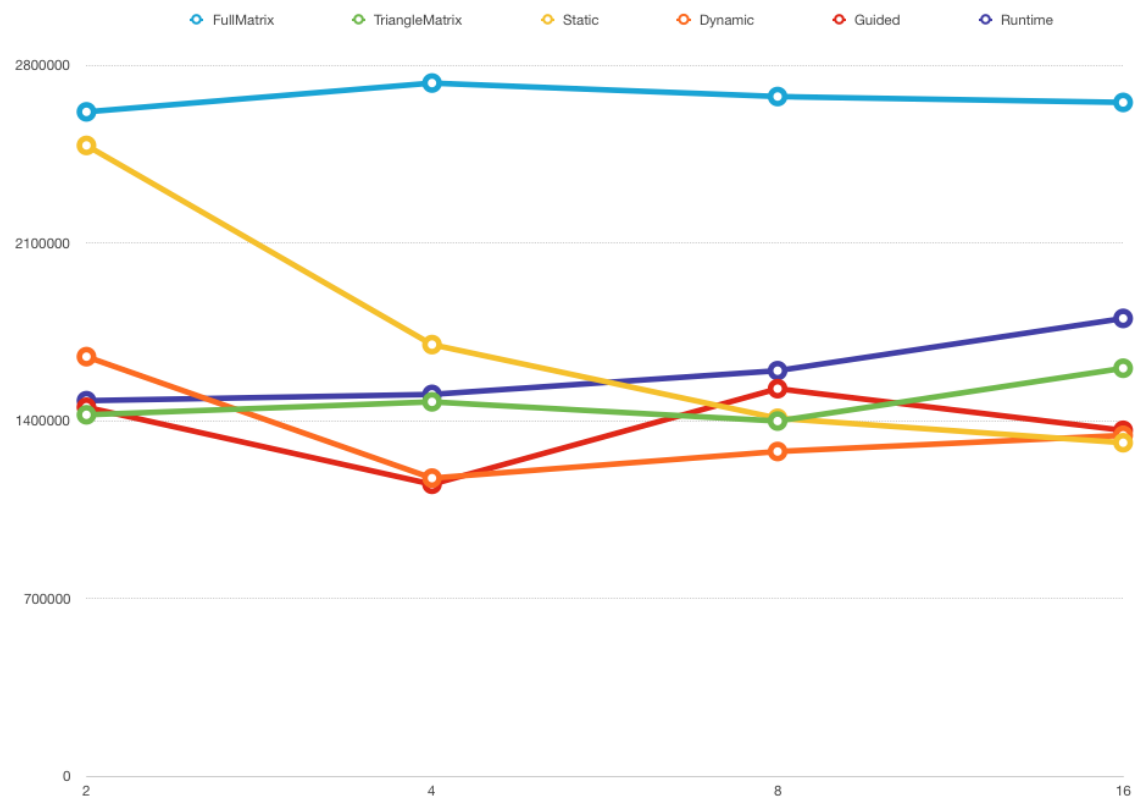

Figure 1: Speedup chart (cycles, threads)

2 Exercise 2: Bubble Sort

In Bubble sort parallel implementation, We make used of the reduction clause in the parralel of the inner loop to detect as if we have the

3 Exercise 3: Quick Sort

4 Exercise 4: Merge Sort

We have the parallel implementation similar to sequential, but each time the recursive call is called, it create a task for threads to handle it.

Regarding the task's created with the size of the array, we will have 2^{n-1}