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**PSA**

**Spring 2023**

**Assignment 5: Parallel Sorting**

**Tasks To DO: -**

1) A cut-off (defaults to, say, 1000) which you will update according to the first argument in the command line when running.

2) Recursion depth or the number of available threads.

3) An appropriate combination of these.

**Conclusion: -**

Based on consistent results from the experiment's graphs, it is safe to conclude that a cut-off array size ratio between 0.35 and 0.45, with an average ratio of approximately 0.4, is preferred when selecting the cut-off for parallel sorting using the system sort. Additionally, it is most efficient to choose a thread count for the thread pool that is close to the number of physical processors available to the JVM. Specifically, the optimal parameters are a cut-off array size of around 0.4 and a thread pool size that is approximately equal to the number of physical processor cores.

Cut-off/Array size ≅ 0.4

Thread Pool ≅ processor cores count

A screenshot of a computer

Description automatically generated

Graphical Representation: