

Write the prefix sum algorithm to calculate the accumulated sum of an input array (of size greater than 1 mil) use streams to distribute data among different streams.

You are required to implement the prefix sum algorithm using different methods and compare their performance:

1. Compare work efficient and work inefficient implementations.
2. Compare work efficient algorithm but using different memories:
 - a. Pageable memory
 - b. Unified memory
 - c. Zero mapped memory
 - d. Pinned memory
3. Use streams to distribute the data among different streams
4. (BOUNS) compare between thread coarsening and using streams