1. Please write a 4-thread program to sum an array with the length of 40000, and finish the following job based on your code:
2. To compare the execution time for doing the same work when using 1 thread and 4 threads.
3. To change the total thread numbers into 2, 6 and 8 and compare the corresponding execution time;
4. To figure out the shared and local memory in your code;
5. To give your own comments on your testing results.
6. Please use divide-and-conquer method to write a parallel program for computing the max number of an array:
   1. Try to use the standard thread interface such as “start(), run(), join() etc.”
   2. Try to use the fork-join framework provided by JDK 7.
   3. Try to write a sequential function to check that your parallel program do give you the correct results.
   4. Try to compare the execution time of the above three cases.
7. Running your application on “n” processors yields a speedup of Sn . Use Amdahl’s law to derive a formula for Sm , the speedup on “m” processors, in terms of “m” and “Sn”.
8. Please write a concurrent program for printing all the prime numbers in “1-109”