Task 2 c)

As we increase the number of threads the execution time decreases but after no. of thread equal six, the execution time did not significantly decrease because of data affinity issue that is as we increase the number of threads the there is migration of thread to different cores by the OS and thus the thread is moved away from data it needs which is original present in the previous cores caches leading communication delays leading to no speed up.

 We can avoid the affinity problem by setting the environmental variable OMP_PLACES to cores and OMP_PROC_BIND to close. We see a slightly increased speed up and we can further improve the speed up by proper assigning of threads to core using OMP_PLACES options.