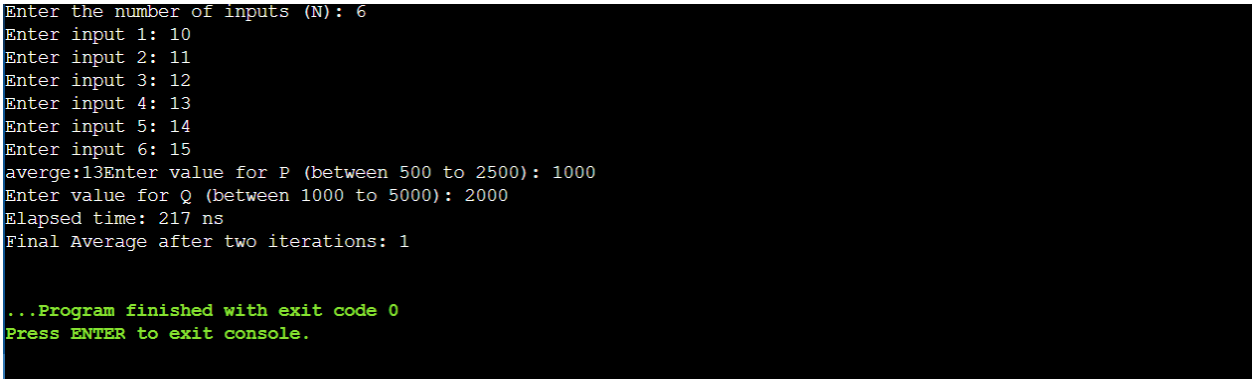
Lab 2

Time of execution without thread :217ns



Time of execution with thread :257350ns

(*have calculated time of execution of GCD block only , Have done roundoff of average unit to eradicate decimal values as GCD was to be done on integer values)

As seen from Time of execution with thread is taking more time as compared to the sequential execution without using thread because

“There are overheads with threading (creating threads, switching context between them, etc) that take time. Unless the calculations can genuinely be done in parallel (e.g. multiple physical cores) it is quite normal that total elapsed time exceeds time to do everything in one thread” For more information: https://stackoverflow.com/questions/63522327/multiple-threads-taking-more-time-than-single-process

Now to address this problem **there is a scope of hardware-software co-design in this system as** the GCD calculations could be offloaded to GCD hardware block , which could compute them in parallel, speeding up the overall computation. The average calculation could be performed by the software on the CPU.