

In the name of God  
Multicore Programming Course  
Lab 5 report  
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Serial execution time with array of size 1024: 0 milliseconds

Parallel execution time with array of size 1024 and 1024 threads in 1 block using GPU: 1.099232 milliseconds

speed up: 0

why? because:

- Array size is very small so CPU computation is very fast and takes zero seconds to compute result.
- In GPU it takes time to transfer arrays <a> and <b> to GPU global memory and transfer array <c> back to CPU memory.
- Compiler uses vector add instructions when translates C code to machine code to improve performance.

code: addkernel

Serial execution time with array of size 100\*1024\*1024: 403 milliseconds

Parallel execution time with array of size 100\*1024\*1024 and 1024 threads per block and 40 block using GPU including transmission time of arrays <a> and <b> and <c>: 2930 milliseconds

Parallel execution time with array of size 100\*1024\*1024 and 1024 threads per block and 40 block using GPU excluding transmission time of arrays <a> and <b> and <c>: 1837 milliseconds

speed up: 0.219

code: addkernel\_2

Index computation code: kernel\_3