Week 7 Assignment 7

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1. Co-processors or accelerators are used for increasing the clock-speed of the CPU to solve a single large task.
   a. True
   b. False

2. A typical feature of GPU hardware is:
   a. 3D/2D off-axles with small or no cache
   b. 3D/2D off-axles with small NUMA
   c. Large NUMA with complex control algorithms
   d. 3D/2D off-axles directly connected to CPU RAM and cache

3. Which of the following is true?
   a. True
   b. False

4. If a CPU-threaded program, programmers can specify a region which will happen the CPU’s and directly run on GPUs.
   a. True
   b. False

5. If a CUDA kernel is launched as a grid, which is structured as:
   a. Grid has number of blocks and each block has same number of threads
   b. Grid has number of blocks and each block may have different number of threads
   c. Grid has number of blocks and the number is fixed as the number of SM’s in the GPU
   d. Grid has threads, which may not be linked to blocks

6. Which of these memories is not physically located on the SM chip?
   a. Shared memory
   b. Register
   c. Local memory
   d. None of these

7. In a general non-uniform memory architecture for a CUDA program, what should be process for?
   a. CPU traverses the threads, kernel function reads memory from the main (CPU) RAM and processes the instructions
   b. CPU copies the relevant data from CPU RAM to device RAM. Then the threads are launched on GPU. The updated memory from GPU RAM is copied back to system memory
   c. CPU traverses the threads. Kernel function copies data from system memory to DRAM and updates it. Now, the thread on CPU copies back the memory from DRAM
   d. CPU and GPU share the same memory, combining host and device RAM. Updates are done as per thread on CPU code execution

8. The grid size is specified as (grid x, y, z). Then, the number of blocks is a, b, and c. direction will be respectively
   a. 6, 1, 3
   b. b, c, a
   c. 6, 52, 0
   d. a, b, c

9. In a CUDA kernel, the variable threadIdx specifies:
   a. Total number of threads in a direction to the block
   b. All of the threads in a direction in the grid
   c. All of the threads in the grid
   d. None of the above