**Blue Waters Petascale Semester Curriculum v1.0**

**Unit 7: CUDA**

**Lesson 5: Adding 2 vectors in CUDA**

**Exercise Instructions for Students**

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•You are given the code for vector addition program in CUDA

•Write a similar program for multiplying three vectors.

Some points to consider:

* Change the SIZE to different values and observe the results
  + If you make SIZE too big, make sure to change data types in the code appropriately
* Why do we need to do (int)ceil((float)SIZE / threads) and not just SIZE/threads ?
* Why do we need to do *if (thread\_id < n)* in the kernel?
* Why do we need to do

*thread\_id = blockIdx.x \* blockDim.x + threadIdx.x* and not *thread\_id = threadIdx.x;*