

CS/EE 217 Lab 3
Reduction and Parallel Scan
Due Wed. Nov. 11 at 8pm

- 1) Unzip lab3-starter into your SDK projects directory or working Linux directory
- 2) There are two parts to this assignment: reduction and scan (i.e., prefix sum). You should see two different directories with the starter code for each.
- 3) In each directory edit the source files kernel.cu and main.cu to complete the functionality of the reduction and scan respectively.
- 4) For both reduction and scan, the size of the array is a command line argument. If none is given, 1 million is the default size. Note that you only have to accumulate the partial sums into an array, which is copied back to the host and verified to check the final answer.
- 5) Answer the following questions:
 - a-Use visual profiler to report relevant statistics about the execution of your kernels. Did you find any surprising results?
 - b-For each of reduction and prefix scan, suggest one approach to speed up your implementation.

Grading:

Your submission will be graded on the following aspects.

Correctness (60%)

1. Reduction produces correct result (25%)
2. Parallel prefix produces correct results (35%)

Efficiency (20%)

- Efficient/Effective implementation is used in both cases.

Report (20%)

Answers to the questions above