

Introduction to CUDA Parallel Programming Homework Assignment 2
March, 2025

1. Write your own CPU+GPU code for finding the trace of the value of an array of real numbers with parallel reduction. You can use the sample code in twcp1:/home/cuda_lecture_2025/vecDotProduct/vecDot.cu as template. The input array can be generated by the routine [RandomInit](#) with 81920007 elements. Also, determine the optimal block size and grid size for this problem.

Your homework report should include your source codes, results, and discussions. The discussion file should be prepared with a typesetting system, e.g., LaTeX, Word, etc., and it is converted to a PDF file. All files should be zipped into one gzipped tar file, with a file name containing your student number and the problem set number (e.g., r05202043_HW2.tar.gz). **Please send your homework with the title “your_student_number_HW2” to twchiu@phys.ntu.edu.tw** before 17:00, June 11, 2025 (deadline for all problem sets).