

# Exercise Instructions for Students

Write a simple matrix multiplication serial code in C:

- a. Add directive to the code that defines the variable for size of the matrices
- b. Define arrays for each matrix and allocate required memory
- c. Write for loop(s) to initialize the matrix arrays with some numbers. You could use random number generators.
- d. Write for loop to carryout the matrix multiplication

Parallelize the for loops with OpenACC:

- a. Find the compute intensive loops to parallelize.
- b. Use OpenACC directives to copy data from CPU host to GPU
- c. Use timers routines available either in OpenACC, C, OpenMP libraries to measure performance.
- d. Compare performance of your program with using PARALLEL LOOP vs. KERNELS