King Saud University
College of Computer and Information Sciences
Department of Computer Science
CSC453 – Parallel Processing – Tutorial No 4 – Spring 2024

Question 1

1. Let's consider 2 integer Arrays A and B of dimension N. Let's consider that we would like to write a C program that runs in parallel and that computes the sum of the 2 arrays:

   C[i] = A[i] + B[i]

   a. Write the kernel (called ***kernel_1***) that will run on 1 Block of N threads.

   b. Write another kernel (called ***kernel_2***) that will run on N blocks with 1 thread each.

   c. Write the main program that will call both kernels.

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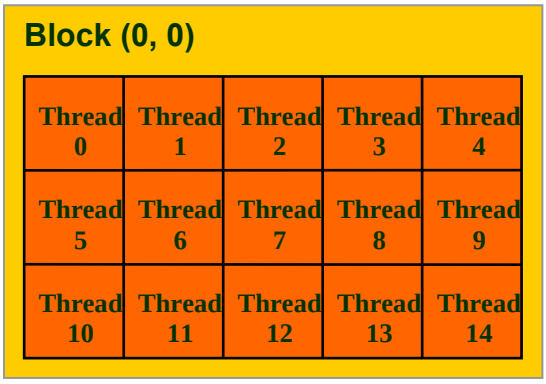
Question 2

For every configuration of the grid of thread blocks described below, give the statement that computes the ID of each thread:

1. The grid is composed of 1 block and threads should have ids as in the following figure:



2. The grid is composed of 1 block and threads should have ids as in the following figure: