מחשוב מקבילי ומבוזר

תרגיל #5

The purpose of this exercise is to practice computation with GPU

- Copy the folders **vectorAdd** and **common** from the **CUDA examples** to your home directory
- Open the terminal, change directory to **vectorAdd** and run the following commands to check your environment

nvcc -I/home/linuxu/common/inc -c vectorAdd.cu -o vectorAdd.o

nvcc vectorAdd.o -o vectorAdd

- Create an array **A** of **N** random integers
- Allocate memory for **N** integers on **GPU**
- Copy array **A** to **GPU**
- Enlarge each element of the array on **GPU** by given constant **K**
- Copy the result to array **B** on **CPU**
- On **CPU**: calculate a sum of all elements of array **B – A.** Check that received value is equal to **K*N.**
- Try following variation of the exercise:
    1. N = 256 one member per thread, one block
    2. N = 1024 one member per thread
    3. N = 102400, one block of GPU threads allowed only
    4. N = 102400, each thread manages exactly 10 members

בהצלחה