Programowanie Równoległe na Architekturach Wielordzeniowych

Parallel programming for multi-core architectures

2024/2025

L2

Task:

Implement solution which generates *N* random numbers <0;MAX> and calculates frequency of its occurrence (histogram). Prepare two versions:

1. without streams
2. with streams

During task presentation both codes should be implemented and code execution should be compared using *ncu* tool.

Compilation of sample codes:

nvcc default.cu -o default

nvcc streams.cu -o streams

sample usage of ncu (with kernel summary)

ncu --print-summary=per-kernel ./default

ncu --print-summary=per-kernel ./streams

Additional sources:

https://developer.download.nvidia.com/CUDA/training/StreamsAndConcurrencyWebinar.pdf
https://developer.nvidia.com/blog/gpu-pro-tip-cuda-7-streams-simplify-concurrency/