

Summer Semester 2022

Assignment on Massively Parallel Algorithms - Sheet 1

Due Date May 8, 2022

Hint: You can use one of the examples on the lecture homepage or from the Cuda SDK (included in the Cuda installation package) to test if Cuda works at all on your computer. For example, you can run the example `1_Uilities/deviceQuery`.

Exercise 1 (CUDA basics: Memory, *9 Credits*)

In the framework `cudaMallocAndMemcpy`

- a) Allocate two arrays `d_a` and `d_b` on the device of the same size as the array `h_a` on the host. You can use `sizeof(datatype)` to get the number of bytes for `datatype`. (*2 Credits*)
- b) Copy `h_a` on the host to `d_a` on the device. (*2 Credit*)
- c) Do a device to device copy from `d_a` to `d_b`. (*2 Credit*)
- d) Copy `d_b` on the device back to `h_a` on the host. (*2 Credit*)
- e) Free `d_a` and `d_b` on the device. (*1 Credits*)