

Exercise Sheet 5

Discussion starts from Monday, June 1, 2020

5.1 OpenCL - Introduction

Answer the following questions:

- Describe the execution and computation model of OpenCL.
- Which are the components of an OpenCL program?
- How is the portability of the application ensured?
- Describe the memory model of OpenCL.

Useful links:

- <https://software.intel.com/en-us/articles/tutorial-opencl-introduction-for-hpc-programmers>
- <https://en.wikipedia.org/wiki/OpenCL>
- <http://simpleopencl.blogspot.com/2013/06/tutorial-simple-start-with-opencl-and-c.html>

5.2 OpenCL - Hello World

In the SVN repository, you can find a simple 'Hello World' example. Go through this example and answer the following questions:

- Where is the data stored?
- How can the data be accessed?
- Why does the parallelization work, although no loop is used in the kernel?

Please note: You can compile a program by executing 'make' (in the respective folder).

General Information: Further information can be found under <https://ls12-www.cs.tu-dortmund.de/daes/de/lehre/lehrveranstaltungen/summersemester-2020/rechnerarchitektur-deutsch.html>. Submitting solutions to the exercise sheets is not required.