OpenCL lab 01

1 Task 1

Copy `openCL_lab01.tar.gz` into a directory of your choice within your account, unpack it using `gunzip openCL_lab01.tar.gz` and `tar xvf openCL_lab01.tar`.

2 Task 2

Compile `simple.c` and `square.c` by typing `make square`. Run `square`, find out what happens if you provide suitable parameters to `square`. (You have to look into the source code in `square.c` to figure out how the parameters are being used.)

3 Task 3

Modify `square.c` so that each thread computes more than one element of the result in the way suggested in the lecture. What is the impact on the runtime?

4 Task 4

Modify `square.c` so that each thread computes each n-th element rather than n adjacent elements. Make n a parameter of the program. What is the impact on the runtime?

5 Task 5

Implement matrix multiply using openCL. You may use `matmul.c` as a starting point. Play with the parameters of `matmul` and observe their effect on the runtime.

6 Task 6

Try to find ways to improve the runtime performance of your `matmul` implementation.

Hand-out: 4/02/2015