Parallel Computing Exercise
Part 2
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cmdline-tool:

gcc -o testalph  alph.c  -std=c99 -lglut -lGL -lm -O2 -ftree-vectorize -fopt-info-vec -ffast-math -fopenmp -lOpenCL

The original CPU without any optimization by cpu:

Total frametime: 1498ms, satellite moving: 120ms, space coloring: 1374ms.

Original with best opt by cpu:

Total frametime: 280ms, satellite moving: 22ms, space coloring: 254ms.

3. The OpenCL version on GPU, WG size 1x1

Total frametime: 58ms, satellite moving: 24ms, space coloring: 30ms.

4l The OpenCL version on GPU, WG size 4x4

Total frametime: 39ms, satellite moving: 25ms, space coloring: 9ms.

5. The OpenCL version on GPU, WG size 8x4

It did not work, wrong dimensios.

5. The OpenCL version on GPU, WG size 8x8

Total frametime: 38ms, satellite moving: 25ms, space coloring: 9ms.

7.The OpenCL version on GPU, WG size 16x16

Total frametime: 35ms, satellite moving: 25ms, space coloring: 6ms.

Window size:80

cpu

optimization flag: 03:

Total frametime: 41ms, satellite moving: 39ms, space coloring: 2ms.

Total frametime: 25ms, satellite moving: 23ms, space coloring: 2ms.

gpu

Total frametime: 25ms, satellite moving: 25ms, space coloring: 0ms.

GPU was faster with 80x80 window.

1. What was good in this exercise work?

Good and interesting was to examine the idea behind OPENCL-standard.

2. How you would improve this exercise work?

To create more windows and things to paralleize.

3. What was the most important and/or interesting thing you learned from this exercise work?

Opencl-pipeline.

4. What was the most difficult thing in this exercise work?

To find the optimal or working worksizes.

To get the pipeline of Opencl to work without bugs; correct worksizes

5. Approximately how many hours did it take to complete this exercise part (Part 2)

20h