GPU Programming Contest

Announcement

- The information on contest will be on this site. Please check it periodically.

Update Information

8th August (Tue)

- contest open

9th August(Thu)

- Deadline

Target subject

- **Implementation of kmeans cluster on the GPU and its optimization」** Write the program and run it on the GPU

- Please check the following files:

Toolkits and Documents

- kmeans_gpu.tar.gz: Toolkit ver.1.0
- gpu_contest.pptx : Toolkit ver1.0 Document
- NVIDIA GPU Computing Document: NVIDIA GPU Computing Document
- NVIDIA CUDA Information Site: Fixstars's site for CUDA introduction

The GPU system to be used

- The toolkit code involves OpenCV, which is available only on Forge.

Usage

- Uncompress the tool kit and sample codes. Add the paths for compilers and others.
  % tar zxvf kmeans_gpu.tar.gz
  % cd kmeans_gpu

- The execution of K-means is done as follows:
  % cd kmeans_gpu/toolkit1.0
  % make
  % make gpu (or cpu)

- The output file is generated on toolkit1.0/result/ with defaults parameters. Please check the correctness of the results with the following programs.
  % make cpu
  % make gpu
  % cd result
  % diff cpu_output gpu_output

- If you want to try other input patterns, please set some arbitrary number to SEED. Note that the default value of SEED is 0.
  % make gen
  % ./gen SEED

Evaluation

- Several input data prepared by the will be used.
- The number of samples in every input file is 1024 * 8 = multiple of 8192
- The number of clusters should be 8
- We need to be able to run the code to check the performance, hence maintain it well.
- A group with fastest code will be awarded a prize.

About report

A simple report including design concept, utilized optimization, discussion and/or proposals for target subject. (about A4 1〜2 pages).