Lab 10

CMPUT 398

Objective

The purpose of this lab is to introduce you to the OpenCL API by implementing vector addition. You will implement vector addition by writing the GPU kernel code as well as the associated host code.

All parts of this lab will be submitted as one zipped file through eclass. Details for submission are at the end of the lab.

Instructions

Edit the code where the TODOs are specified. There are many tutorials on OpenCL online and in the slides. It can be helpful to get the build log of the OpenCL program to see what issues you might have with your kernel. Check out:

http://dhruba.name/2012/08/16/opencl-cookbook-building-a-program-and-debugging-failures/

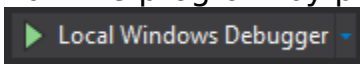
Local Setup Instructions

Steps:

1. Download “Lab10.zip”.
2. Unzip the file.
3. Open the Visual Studios Solution in Visual Studios 2013.
4. Build the project. Note the project has two configurations.
    a. Debug
    b. Submission

But make sure you have the “Submission” configuration selected when you finally submit.

5. Run the program by pressing the following button:



Make sure the “Debug” configuration is selected. Running the program in Visual Studios will run one of the tests located in “Dataset /Test”.

Testing

To run all tests located in “Dataset/ Test”, first build the project with the “Submission” configuration selected. Make sure you see the “Submission” folder and the folder contains the executables.

To run the tests, click on “Testing_Script.bat”. This will take a couple of seconds to run and the terminal should close when finished. The output is saved in “Marks.js”, but to view the calculated grade open “Grade.html” in a browser. If you make changes and rerun the tests, then make sure you reload “Grade.html”. You can double check with the timestamp at the top of the page.

Submission

After you build your project with the “Submission” configuration selected (see above) you will see a new folder called “Submission” in the project directory. If you open the folder you will see your executable. Finally zip the folder “Submission” and upload the zipped folder to eclass.

If you don’t see this folder or are missing the executable, then one of two things happened. First your build could have failed and you should check for any errors in your build log in Visual Studios. Also you might have had the “Debug” configuration selected (see above). Make sure the “Submission” configuration is selected.

Mark Breakdown

It is important that you **do not** add or remove any print statements or wb functions. We use them for part of your grading so if you make changes the marking script could fail.

Part	Breakdown (%)
OpenCL Vector Add	100 %