Project 1 : Federacion Universitaria de La Plata

Due 9/16/2015 @ 12pm (noon)

TOPICS:

- CUDA Programming
- Device Memory Management
- Kernel Calls
- Parallel Execution

BACKGROUND:
During class, we discussed how to write simple CUDA programs that allocate memory, copies data to the GPU, and execute a single instruction across multiple threads via a kernel call.

DIRECTIONS:
Design and implement a short CUDA program that called DecodeEmail2FULP.cu.

The DecodeEmail2FULP program will use a command line argument to open a text file and decode its contents using a kernel call.

The decoding algorithm is as follows: each character must be decremented by the value of 1. That is all.

You must check for 1) the appropriate number of command line arguments and 2) whether the file exists. Appropriate error messages must be issued, followed by a graceful exit.

IMPLEMENTATION NOTES:
Any program that does not compile or does not have correctly constructed Makefiles will not be graded.

COMMENTS AND STYLE:
Although there will be no formal policy on commenting and style, the reader should able to easily follow the main purpose of the code. Each set of code that does something significant must be commented. The variable names should be easily recognizable and acronyms should be avoided if possible.

Do not be surprised if help is not forthcoming if your code is poorly commented and/or difficult to follow. You have been warned.

PROJECT SUBMISSION:
The program should be in a single directory named "DecodeEmail2FULP". The program must have a corresponding Makefile. The contents of the directories must be archived in a tarball that is gzipped called Proj1.tar.gz.

Place the gzipped tarball in your Drop Box on Sakai before it is due.

PLEDGED WORK POLICY:
Assignments in Computer Science courses may be specified as "pledged work" assignments by the professor of the course. When an assignment is specified as "pledged work" the only aid that the student may seek is from either the course professor or an assistant that the professor has explicitly specified. On "pledged work" assignments the student may not use the services of a tutor.

For this project, you may discuss only basic C syntax (not CUDA) with others. Any other discussions of the project are strictly prohibited except with the professor of the course. Your code and your implementation of the project must be the product of your own work.

FULL CREDIT NOTE:
For full credit on this project, you must email the contents of the decoded message with the subject line of "Best Video Ever" to the following email address: fulp@wfu.edu. Also, bcc the following email address: choss@wfu.edu. You may only claim extra credit if your message is decoded correctly. **Do not send the email if your message is not decoded correctly. SENDING A STILL ENCODED MESSAGE WILL RESULT IN A ZERO.**