**Project 1 Process Programming, Chapter 3 CS 300, Hong**

***All the coding must be done in C language, being able to compile and execute in Linux. If you use a MAC, you should take extra care to create an executable C code in Linux***

**Submit** source code in C to BlackboardLearn "Proj 1”. Submit only source files, one for each, no need for makefile.

This project has two tasks. Descriptions of both tasks can be found in the attached PDF file “Chp3-1-ProgrammingAssignment.pdf”.

(1) Chapter3 Programming Problems:3.21. 35%

Hints: 1. The problem is very clearly described in the book or the PDF file.

2. Input will be provided from the command line. Input must be a positive number, So, necessary checking is required

3. Child Process will generate the expected sequence and print the sequence

4. Parent must wait for the child process to complete

(2)Chapter3 Programming Project 1, Unix Shell and History Feature (both Part I and Part II). 65%

Hints: 1. Correction in Figure 3.36:

Line "*\* (3) if command included &, parent will invoke wait()*"  should be:

"*\* (3) ..., parent will NOT invoke wait()*".

2. The problem is very clearly described in the book or the PDF file.

3. Do not add commands **"history",** **"!!"** and **"!N"** into history. (you know why - think about “what if they are in the history”).

(3) **Grading** will count:

3.21:

1. submission and compilation success, 10 points;
2. Input handling, 5 pts;
3. correct results for even and odd inputs, 10 pts;
4. use of fork() and wait(), 10 pts.

Chp3 Programming 1:

1. submission and compilation success, 10 points;
2. modified main, prompt and input handling, 15 pts;
3. use of fork() and wait(), and execvp(), 15 pts;
4. test **history**, **!!** and **!N** commands and error handling (according to the descriptions), 25 pts.