CMSC 412 Homework 2

[create by Professor Alin Suciu]

Write a C program for UNIX that creates three processes, a grandparent (G), a parent (P) and a child (C). The first process is the grandparent G, which creates the process P (the parent) and then waits until P finishes its execution. Process P in turn, will create the child process C and waits until C finishes its execution. More precisely, the following list describes the behavior of each process:

1. Process G will create process P, will wait for process P to finish its execution, and then will display its own *pid*.

2. Process P will create process C, will wait for process C to finish its execution, and then will display its own *pid* and the *pid* of process G (its parent).

3. Process C will display its own *pid*, the *pid* of process P (its parent) and the *pid* of process G (its grandparent)

When run, the program will display the following (where X, Y, Z are numbers representing process ids):

```
I am the child process C and my pid is X. My parent P has pid Y. My
grandparent G has pid Z.
I am the parent process P and my pid is Y. My parent G has pid Z.
I am the grandparent process G and my pid is Z.
```