

CS6233

Midterm – Part2

Programming Problem

60 minutes

10 points

Please submit your C-code for the following programming problem via the assignment page at NYU classes before the time expiration.

This problem is **open book, notes, class page, man pages, etc.**

You must **work alone** and may not consult or seek help from others; locally, remotely, via internet forums, etc.

You may perform your work on a Linux virtual machine or a Linux laptop.

Programming problem:

Write the main routine of your program such that it creates **two unnamed pipes** and then spawns a child process using the `fork()` system call.

The child process starts by first sending a single character (of any value) to the parent via one of the two pipes the parent created, indicating that it is ready.

The parent then responds by sending the message “Hello world, this is CS6233\n” to the child process via the second pipe and then waits for the child to exit.

When the child receives the full message, it prints it to the screen and then exits. The child however does not know the length of the message, and thus uses the newline character or the null terminator to detect the end of the message string.

After the child exits, the parent closes the pipes and exits.