C/C++ Programming in a UNIX Environment, CS 3377, Assignment 07

1. [25] Write a program that prints "Hello, World!" from a child process it creates and prints the ids of the child and parent processes in the format "The child and parent process ids are: 1234 and 1235."
A failure of fork() should be caught and printed as an error message using err_sys call.

2. [75] The Fibonacci sequence is the series of numbers 0, 1, 1, 2, 3, 5, 8, …. It is defined by the following mathematical expression, with X_0 and X_1 being 0 and 1, respectively:
$$X_n = X_{n-1} + X_{n-2}$$
Write a C program using the fork() system call that generates and prints the Fibonacci sequence in the child process. The number of members in the sequence will be determined by a user provided as a user prompted input. Make the parent process wait for the child process to complete before exiting. Make the program print both the parent and child process IDs. The program should perform the necessary error checking to only accept positive integers from the user. A failure of fork() should be caught and printed as an error message using err_sys call.