Assignment 3

Description: This problem covers the usage of basic IPC (Inter process communication) thru pipe() systems call.

Problem for the Lab

Write a C program to handle the reception of INTERRUPT FROM THE KEYBOARD signal by executing a particular (user) function, which function is responsible for creating a child process by using fork() system call. Also, the child process will take an input N (N is the no. of terms to generate the Fibonacci series) from the user and generate the Fibonacci series up to N terms. Then the child process will send the Fibonacci series terms one by one to the parent process by using pipe() system call and the parent process will read the Fibonacci series terms one by one and will display it.

(N.B. – Before sending the Fibonacci terms one by one from the child process, first you send the Process ID of the child process to the parent process and read and display it in the parent process. Again after sending the terms one by one from the child process to the parent process, from the child process you send the Signal ID for which handler function has been generated and read and display it in the parent process.)

Hints:-

- Learn about signal () system call, pipe () system call, fork () system call, write () system call, read () system call.
- To keep synchronize the child process execution with parent process execution and vice versa, you may need to use the sleep () system call.
- For the above mentioned system call, follow the man pages.
- Try to understand the following diagram (Diagram1).

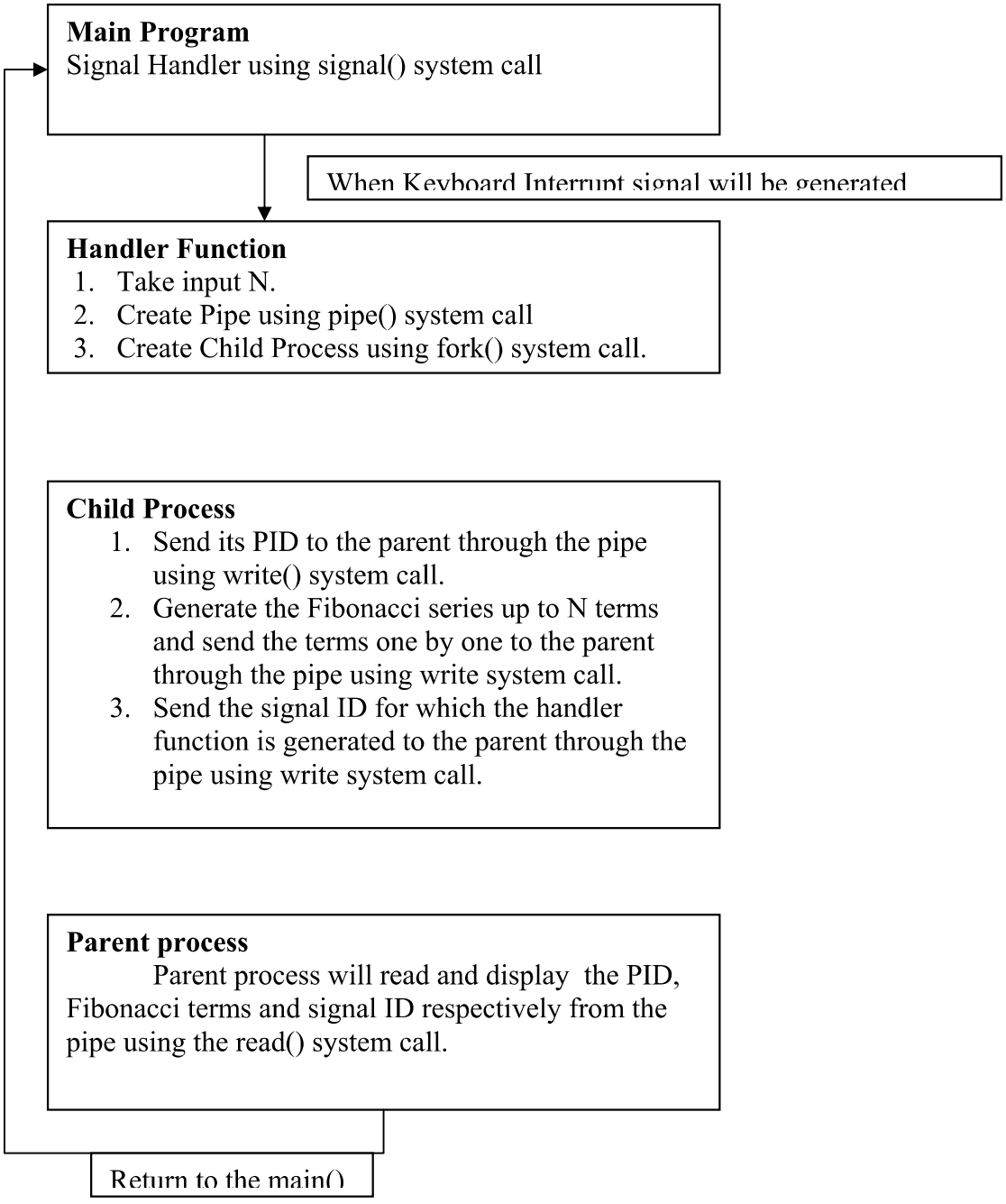

Figure1:- Diagram1