Interprocess Communication

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Code Description

1.) FIFO

In the FIFO part i have two files one is the sender file and second is receiver file . I am using two pipes to do the task, one named FIFO1 and FIFO2.Then I have a while loop that stores 50 strings and their IDs in an array. Then I am using mkfifo() to initialize the pipe.Then in the sender file I write the content in pipe and then read the pipe to get the content sended by the receiver file. Then using unlink() function to remove the link to the pipe. clock_gettime() function is used to print the time taken by the process. I have a sleep time 1 for actual time we can subtract 50 from the time we get.

2.) Shared Memory

In the shared memory part I have two files, one is the sender file and second is receiver file. In sender file I have one Shared memory pointer of type void than we have a function shmget() which returns the key and than shmat() which returns the pointer to the memory address.Than copying the array content to shared memory and than using shmdt() function to detach the shared memory.This is done in sender function. Then I have a receiver function which prints the received ID from shared memory. In function I am randomly generating the strings and storing them in an array. Then I received a file which stores the content of shared memory to a buffer and prints it on the console. Then I have a sender function which sends the i%5==0 ID to the sender file back.

3.) Unix domain sockets

In the unix domain sockets in main() function first i am randomly storing the 50 random strings in an array. Then I am initializing a pointer to the file. I am using the socket() function to get a socket. It is a stream socket.Than i am creating the address to which we will bind it.Then using strcpy() function to copy the address.Than i am using the bind() function to bind a unique local name to the socket. Then used listen() function to create a connection request queue. Then using the accept() function to get the connection request from the receiver.Then using the fdopen() function used to read the file.Then i am using the send() and recv() function to send and receive the content.In receiver file i am using the connect() function to connect the sender and receiver.At last i am using the close() function to terminate the connection.