Ellika Mishra 33221

bestfriend°
Date
Page

Assignment 7

Title :- Inter process communication in Linux

Problem Statement :- Inter process communication in LINUX uses following :

(a) Pipes - Full duplex communication between parent and child processes.

(b) FIFO - Full duplex communication between two independent processes.

Theory :-

Pipe - a connection between two processes, such that the standard output from one process becomes the standard input of the other process.

In UNIX operating system pipes are useful for communication between related process (IPC).

Syntax in C Language :-

```
int pipe (int fds[2]);
```

Parameters :-

fd[0] will be file description for read end of the pipe
fd[1] will be file description for write end of the pipe
Returns 0 on success, -1 on error

FIFO :- a named pipe (FIFO) is one of the methods for inter-process communication.

Algorithm for IPC using pipes :-

Regular

Signature .....

Ellika Mishra 3321

bestfriend°
Date
Page

(1) Create two pipes // pipe
(2) Create child process // fork
(3) Parent process should create a path name of a file to path // write pipe fd[1]
(4) Child should ~~write~~ retrive/read the path name from the pipe // read pipe 1 fd[0]
(5) Child should write the content of the file to the pipe // write pipe 2 fd[1]
(6) Parent should retrive/read the content of the file from the pipe // read pipe 2 fd[0]
(7) Write it to the standard output

Algorithm for IPC using FIFOs:-

(1) Create 1st named pipe
(2) Accept sentences
(3) Write into 1st named pipe
(4) Open second pipe in red mode
(5) Read chars, lines, words and print

Part 2

(1) Open 1st named pipe in read mode (created in part-1)
(2) Count no. of characters, lines, words in accepted sentences.
(3) Create 2nd named pipe
(4) Store chars, lines, words in buffer
(5) Write buffer onto 2nd named pipe

Conclusion :- I have successfully understood and implemented inter process communication in LINUX using Pipes and FIFOs.

Regular

Signature .....