TE IT

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Inter process communication in Linux using following.
(b) FIFOs: Full duplex communication between two independent processes. First process accepts sentences and writes on one pipe to be read by second process and second process counts number of characters, number of words and number of lines in accepted sentences, writes this output in a text file and writes the contents of the file on second pipe to be read by first process and displays on standard output.

b1.c file:

```
#include<stdio.h>
#include<stdlib.h>
#include<errno.h>
#include<string.h>
#include<fcntl.h>
#include<sys/types.h>
#include<sys/stat.h>
#include<unistd.h>

#define FIFO_NAME1 "comm_pipe1"
#define FIFO_NAME2 "comm_pipe2"

int main()
{
	char s[300],vowel[20],send[100];
	int num,fd1,fd2,sig,k=0,i,wordcnt=1,charcnt=0,linecnt=0;
	FILE *fp;
	fp=fopen("fifo.txt","w");
	mknod(FIFO_NAME1,S_IFIFO | 0666,0);
```

```
mknod(FIFO_NAME2,S_IFIFO | 0666,0);

printf("waiting for poducers...\n");
fd1=open(FIFO_NAME1, O_RDONLY);
fd2=open(FIFO_NAME2, O_WRONLY);
printf("GOT A PRODUCER\n");

if((num=read(fd1,s,300))==-1)
perror("read");
else
{
      s[num]='\0';
      printf("tick:read %d bytes :\%s\"\n",num,s);
k=0;
vowel[0]='\0';
wordcnt=1;
for(i=0;i<num;i++)
{
      if((s[i]=='a'||s[i]=='e'||s[i]=='i'||s[i]=='o'||s[i]=='u'))
      {
            vowel[k]=s[i];
            k++;
      }
      if(s[i]==' '&&s[i+1]!=' ')
      {
            wordcnt++;
      }
      if(s[i]==' '&&(s[i+1]==' '||s[i+1]=='\0'))
            linecnt++;
      else
            if(s[i]!=' '&&s[i]!=' ')
          charcnt++;
      }
      vowel[k]='\0';
      sprintf(send,"for the given sentence the word count is %d\n vowel cnt
is %d\n            character count is %d\n linear are %d\n",wordcnt,k,charcnt,linecnt);
      fprintf(fp,"%s",send);
      //strcat(snd,vowel);
      if((sig=write(fd2,send,strlen(send)))!=-1)
      printf("\nwritten successfully to file 2");
      else
      printf("\nerror in writing to file 2");
```

```
        }
        return 0;
}
```

b2.c:

```
#include<stdio.h>
#include<stdlib.h>
#include<errno.h>
#include<string.h>
#include<fcntl.h>
#include<sys/types.h>
#include<sys/stat.h>
#include<unistd.h>

#define FIFO_NAME1 "comm_pipe1"
#define FIFO_NAME2 "comm_pipe2"

int main()
{
        char s1[300],s2[300];
        int num,fd1,fd2,byt;
        mknod(FIFO_NAME1,S_IFIFO | 0666,0);
        mknod(FIFO_NAME2,S_IFIFO | 0666,0);

        printf("waiting for consumer..\n");
fd1=open(FIFO_NAME1, O_WRONLY);
fd2=open(FIFO_NAME2, O_RDONLY);

printf("got a consumer --type some stuff\n");
fgets( s1,20, stdin );
if((num=write(fd1,s1,strlen(s1)))==-1)
        perror("write");
else
{
        printf("Speak:wrote %d bytes to file 1\n",num);
        byt=read(fd2,s2,300);
        s2[byt]='\0';
        printf("%s\n",s2);
```

```
        }
return 0;
}
```

Output of b1.c :

```
waiting for poducers...
GOT A PRODUCER
tick:read 16 bytes :This is a file.
"

written successfully to file 2
```

Output of b2.c :

```
waiting for consumer..
got a consumer --type some stuff
This is a file.
Speak:wrote 16 bytes to file 1
for the given sentence the word count is 4
 vowel cnt is 5
 character count is 13
 linear are 0
```