

# **OPERATING SYSTEMS**

## **LAB TASK – 10**

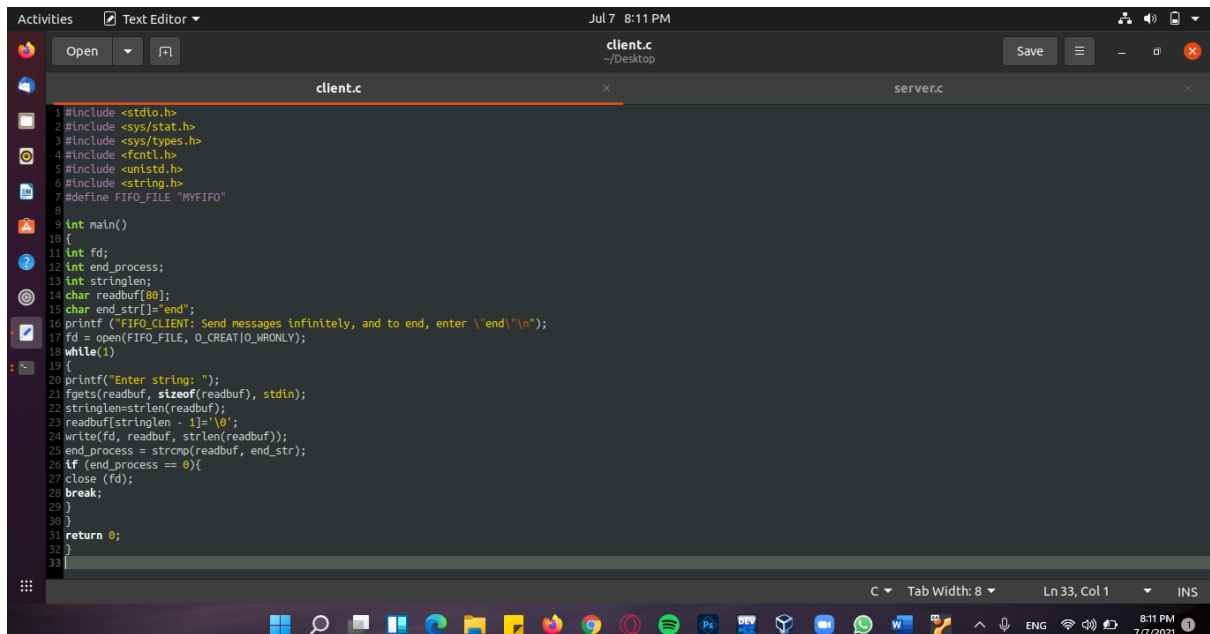
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**S.ID:** 11070

## QUESTION – 1

CODE:

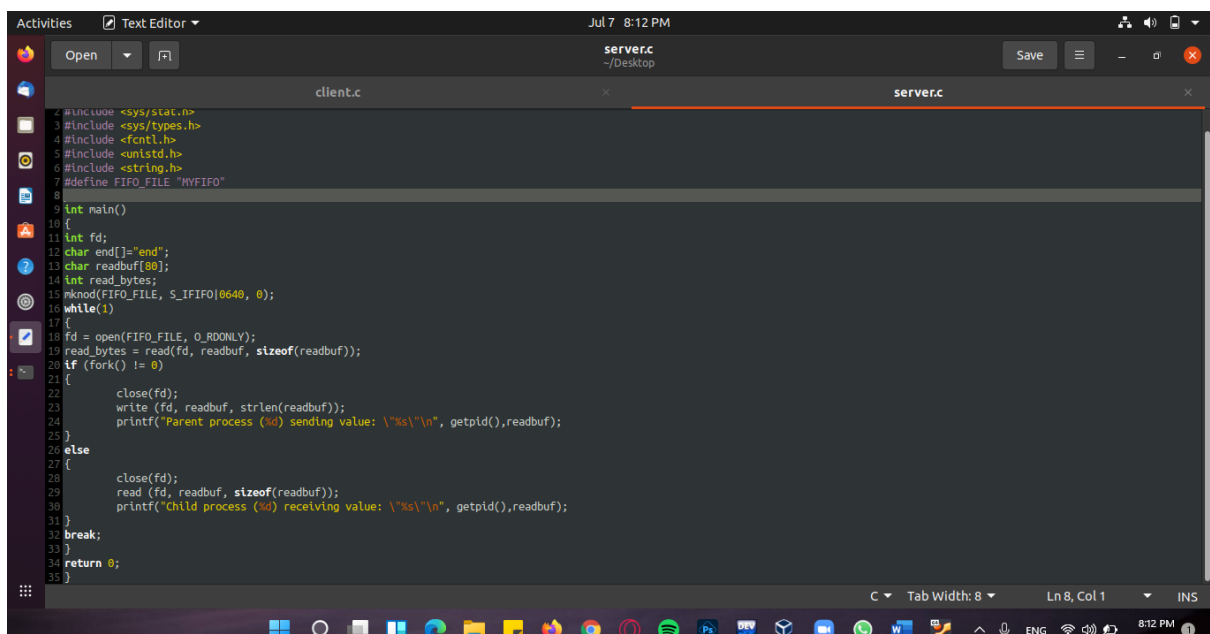
### Client (Parent)



The screenshot shows a text editor window titled 'client.c' with the following code:

```
1 #include <stdio.h>
2 #include <sys/stat.h>
3 #include <sys/types.h>
4 #include <fcntl.h>
5 #include <unistd.h>
6 #include <string.h>
7 #define FIFO_FILE "MYFIFO"
8
9 int main()
10 {
11     int fd;
12     int end_process;
13     int stringlen;
14     char readbuf[80];
15     char end_str[]="end";
16     printf ("FIFO_CLIENT: Send messages infinitely, and to end, enter '\nend'\n");
17     fd = open(FIFO_FILE, O_CREAT|O_WRONLY);
18     while(1)
19     {
20         printf("Enter string: ");
21         fgets(readbuf, sizeof(readbuf), stdin);
22         stringlen=strlen(readbuf);
23         readbuf[stringlen - 1]='\0';
24         write(fd, readbuf, strlen(readbuf));
25         end_process = strcmp(readbuf, end_str);
26         if (end_process == 0){
27             close (fd);
28             break;
29         }
30     }
31     return 0;
32 }
```

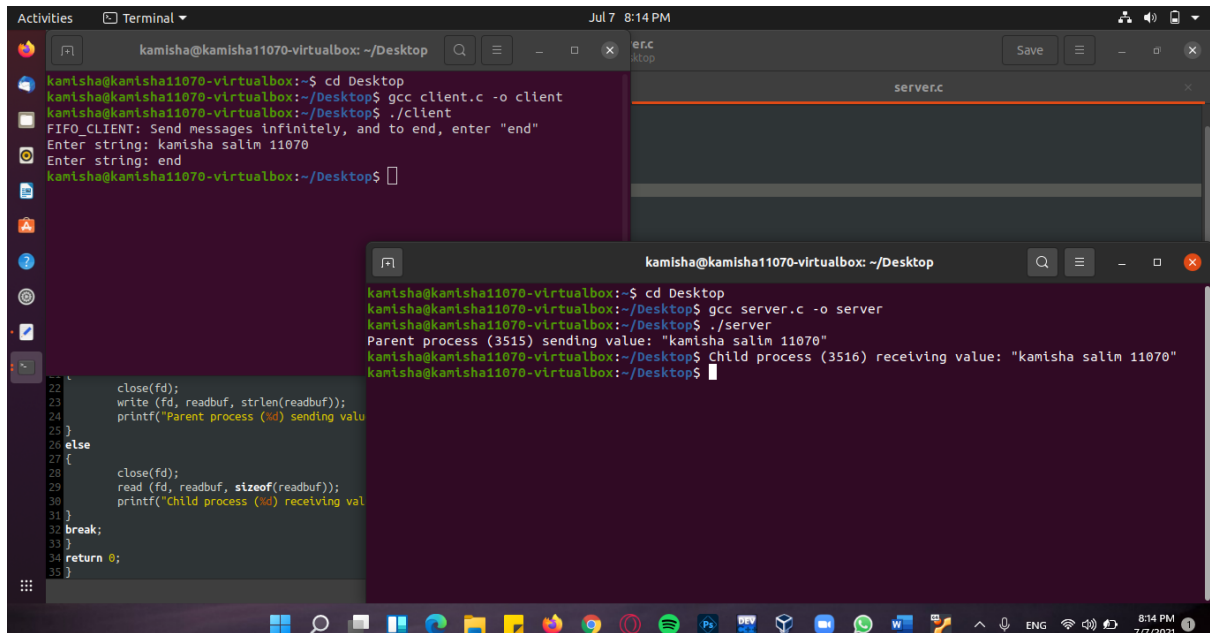
### Server (Child)



The screenshot shows a text editor window titled 'server.c' with the following code:

```
1 #include <sys/stat.h>
2 #include <sys/types.h>
3 #include <fcntl.h>
4 #include <unistd.h>
5 #include <string.h>
6 #define FIFO_FILE "MYFIFO"
7
8 int main()
9 {
10     int fd;
11     char end[]="end";
12     char readbuf[80];
13     int read_bytes;
14     int read_bytes;
15     mknod(FIFO_FILE, S_IFIFO|0640, 0);
16     while(1)
17     {
18         fd = open(FIFO_FILE, O_RDONLY);
19         read_bytes = read(fd, readbuf, sizeof(readbuf));
20         if (fork() != 0)
21         {
22             close(fd);
23             write (fd, readbuf, strlen(readbuf));
24             printf("Parent process (%d) sending value: \"%s\"\n", getpid(),readbuf);
25         }
26         else
27         {
28             close(fd);
29             read (fd, readbuf, sizeof(readbuf));
30             printf("Child process (%d) receiving value: \"%s\"\n", getpid(),readbuf);
31         }
32         break;
33     }
34     return 0;
35 }
```

## OUTPUT:



```
kamisha@kamisha11070-virtualbox: ~/Desktop
kamisha@kamisha11070-virtualbox:~$ cd Desktop
kamisha@kamisha11070-virtualbox:~/Desktop$ gcc client.c -o client
kamisha@kamisha11070-virtualbox:~/Desktop$ ./client
FIFO_CLIENT: Send messages infinitely, and to end, enter "end"
Enter string: kamisha salin 11070
Enter string: end
kamisha@kamisha11070-virtualbox:~/Desktop$

kamisha@kamisha11070-virtualbox:~/Desktop$ cd Desktop
kamisha@kamisha11070-virtualbox:~/Desktop$ gcc server.c -o server
kamisha@kamisha11070-virtualbox:~/Desktop$ ./server
Parent process (3515) sending value: "kamisha salin 11070"
kamisha@kamisha11070-virtualbox:~/Desktop$ Child process (3516) receiving value: "kamisha salin 11070"
kamisha@kamisha11070-virtualbox:~/Desktop$
```