



File Edit Selection View Go Run Terminal Help

EXPLORER

LAB6

cons
myfifo
prod
q1_rcv
q1_rcv.c
q1_send
q1_send.c
q2_consumer
q2_consumer.c
q2_producer
q2_producer.c

q2_producer.c

q2_consumer.c

q2_producer.c > ...
1 /* Q2: Producer - Write 4 integers to FIFO */
2
3 #include <stdio.h>
4 #include <fcntl.h>
5 #include <sys/stat.h>
6 #include <unistd.h>
7
8 int main() {
9 int fd, arr[4];
10 mkfifo("myfifo", 0666);
11
12 printf("Enter 4 integers: ");
13 for(int i=0; i<4; i++) scanf("%d", &arr[i]);
14
15 fd = open("myfifo", O_WRONLY);
16 write(fd, arr, sizeof(int) * 4);
17 close(fd);
18
19 return 0;
20 }
21

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Enter a message to send to child: Hello World!
Child received message: Hello World!
[1] + Done /usr/bin/gdb --interpreter=mi --tty=\${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-blumagjh.kc4" 1>"/tmp/Micro
soft-MIEngine-Out-xukg3x2p.nly"
4ITA2@debian:~/krtin_240911550/Lab6\$

OUTLINE
TIMELINE

4ITA2@debian: ~/krtin_240911550/Lab6

File Edit View Search Terminal Help

4ITA2@debian:~/krtin_240911550/Lab6\$./prod
Enter 4 integers: 10 20 30 40
4ITA2@debian:~/krtin_240911550/Lab6\$

4ITA2@debian:~/krtin_240911550/Lab6

File Edit View Search Terminal Help

4ITA2@debian:~/krtin_240911550/Lab6\$ mkfifo myfifo
4ITA2@debian:~/krtin_240911550/Lab6\$./cons
Consumer received: 10 20 30 40
4ITA2@debian:~/krtin_240911550/Lab6\$ date
Thursday 19 February 2026 03:46:18 PM IST
4ITA2@debian:~/krtin_240911550/Lab6\$

build with Agent

Responses may be inaccurate.
See Agent Instructions to onboard
AI onto your codebase.

Ln 21, Col 1 Spaces: 4 UTF-8 LF {} C Linux

FileEditSelectionViewGoRunTerminalHelp

LAB6

.vscode

cons

myfifo

prod

q1_recv

q1_recv.c

q1_send

q1_send.c

q2_consumer

q2_consumer.c

q2_producer

q2_producer.c

q3

q3.c

q3.c

q3.c > main()

1/* Q3: Parent-Child communication using Shared Memory */

2#include <stdio.h>

3#include <stdlib.h>

4#include <unistd.h>

5#include <sys/shm.h>

6#include <sys/wait.h>

7

8int main() {

9int shmid = shmget(IPC_PRIVATE, 1024, 0666 | IPC_CREAT);

10char *str = (char*) shmatt(shmid, (void*)0, 0);

11

12if (fork() == 0) { // Child

13sleep(2); // Wait for parent to write

14printf("Child read: %c\n", str[0]);

15str[0] = str[0] + 1; // Increment alphabet

16shmdt(str);

17exit(0);

18} else { // Parent

19printf("Parent: Enter an alphabet: ");

20scanf(" %c", &str[0]);

21

22wait(NULL); // Wait for child to respond

23printf("Parent: Child replied with: %c\n", str[0]);

24

25shmdt(str);

26shmctl(shmid, IPC_RMID, NULL);

27}

28return 0;

29}

CHAT

Build with Agent

AI responses may be inaccurate.

Generate Agent Instructions to onboard AI onto your codebase.

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

Parent: Enter an alphabet: Child read:

A

Parent: Child replied with: A

[1] + Done

"/usr/bin/gdb" --interpreter=mi --tty=\${DbgTerm} 0<"/tmp/Microsoft-MIEngine-In-ifddldrdw.rxz" 1>"/tmp/Micro

soft-MIEngine-Out-tae3pagy.nqq"

4ITA2@debian:~/krtin_240911550/Lab6\$ date

Thu Feb 19 15:47:47 IST 2026

4ITA2@debian:~/krtin_240911550/Lab6\$

gcc buil... ✓

cppdbg: q1

cppdbg: q3

SUGGESTED ACTIONS

Build Workspace

Show Config

q3.c +

Describe what to build next

Agent Auto

Ln 29, Col 2Spaces: 4UTF-8LF{}CLinux

FileEditSelectionViewGoRunTerminalHelp

LAB6

LAB6

.vscode

cons

myfifo

prod

q1_rcv

q1_rcv.c

q1_send

q1_send.c

q2_consumer

q2_consumer.c

q2_producer

q2_producer.c

q3

q3.c

q4_reader.c

q4_writer.c

reader

shmfile

writer

q4_writer.c

q4_reader.c

q4_writer.c

main()

1/* Q4: Writer - Write words into Shared Memory */

2#include <stdio.h>

3#include <sys/shm.h>

4

5int main() {

6key_t key = ftok("shmfile", 65);

7int shmid = shmget(key, 1024, 0666 | IPC_CREAT);

8char *str = (char*) shmat(shmid, (void*)0, 0);

9

10printf("Enter words: ");

11fgets(str, 100, stdin);

12

13printf("Data written: %s", str);

14shmdt(str);

15return 0;

16}

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

Parent: Enter an alphabet: Child read:
A
Parent: Child replied with: A
[1] + Done
soft-MIEngine-Out-tae3pagy.nqq"
4ITA2@debian:~/krtin_240911550/Lab6\$ date
Thu Feb 19 15:47:47 IST 2026
4ITA2@debian:~/krtin_240911550/Lab6\$

OUTLINE

TIMELINE

4ITA2@debian: ~/krtin_240911550/Lab6

File Edit View Search Terminal Help

4ITA2@debian:~/krtin_240911550/Lab6\$ gcc q4_writer.c -o writer

4ITA2@debian:~/krtin_240911550/Lab6\$ gcc q4_reader.c -o reader

4ITA2@debian:~/krtin_240911550/Lab6\$ touch shmfile

4ITA2@debian:~/krtin_240911550/Lab6\$./writer

Enter words: hello world!

Data written: hello world!

4ITA2@debian:~/krtin_240911550/Lab6\$

4ITA2@debian: ~/krtin_240911550/Lab6

File Edit View Search Terminal Help

4ITA2@debian:~/krtin_240911550/Lab6\$./reader

Consumer read: hello world!

Shared memory deleted.

4ITA2@debian:~/krtin_240911550/Lab6\$ ^C

4ITA2@debian:~/krtin_240911550/Lab6\$ date

Thursday 19 February 2026 03:51:05 PM IST

4ITA2@debian:~/krtin_240911550/Lab6\$

Ln 16, Col 2

Spaces: 4

UTF-8

LF

{ } C

Linux

15:51