CODE >>

Writer : -

#include <stdio.h>

#include <string.h>

#include <fcntl.h>

#include <sys/stat.h>

#include <sys/types.h>

#include <unistd.h>

int main()

{

int fd;

char \*myfifo = "/tmp/myfifo";

// Create the named pipe (FIFO)

mkfifo(myfifo, 0666);

char sentence[80];

while (1)

{

// Open FIFO for writing

fd = open(myfifo, O\_WRONLY);

// Take input sentence from the user

printf("Enter a sentence: ");

fgets(sentence, 80, stdin);

// Write the sentence to the FIFO

write(fd, sentence, strlen(sentence) + 1);

close(fd);

// Open FIFO for reading

fd = open(myfifo, O\_RDONLY);

// Read and print the processed data

char processed\_data[256];

read(fd, processed\_data, sizeof(processed\_data));

printf("Processed data: %s\n", processed\_data);

close(fd);

}

return 0;

}

Reader :-

#include <stdio.h>

#include <string.h>

#include <fcntl.h>

#include <sys/stat.h>

#include <sys/types.h>

#include <unistd.h>

int main()

{

int fd;

char \*myfifo = "/tmp/myfifo";

// Create the named pipe (FIFO)

mkfifo(myfifo, 0666);

while (1)

{

// Open FIFO for reading

fd = open(myfifo, O\_RDONLY);

// Read the sentence from the FIFO

char sentence[80];

read(fd, sentence, sizeof(sentence));

read(fd, sentence, 80);

// Print the read string and close

printf("User1: %s\n", sentence);

close(fd);

// Process the data (count characters, words, and lines)

int char\_count = 0, word\_count = 0, line\_count = 0;

for (int i = 0; sentence[i] != '\0'; i++)

{

if(sentence[i] == '\n')

{

line\_count++;

}

else if(sentence[i] == ' ')

{

word\_count++;

}

else

{

char\_count++;

}

}

word\_count++; // Count the last word

// Create a string with the counting results

char counting\_result[256];

snprintf(counting\_result, sizeof(counting\_result), "Characters: %d, Words: %d, Lines: %d", char\_count, word\_count, line\_count);

// Write the counting results to a file

FILE \*output\_file = fopen("output.txt", "w");

if (output\_file)

{

fprintf(output\_file, "%s\n", counting\_result);

fclose(output\_file);

}

// Open FIFO for writing

fd = open(myfifo, O\_WRONLY);

// Send the counting results back to Process 1

write(fd, counting\_result, strlen(counting\_result) + 1);

close(fd);

}

return 0;

}

OUTPUT >>

| Terminal 1 | Terminal 2 |
| --- | --- |
| pranav@pranav:~/OS/7A$ gcc u1.c  pranav@pranav:~/OS/7A$ ./a.out  Enter a sentence: hello world  Processed data: Characters: 10, Words: 2, Lines: 1  Enter a sentence: see ya \n lets watch movie  Processed data: Characters: 21, Words: 6, Lines: 2  Enter a sentence: | pranav@pranav:~/OS/7A$ gcc u2.c  pranav@pranav:~/OS/7A$ ./a.out  User1: hello world  User1: see ya \n lets watch movie |