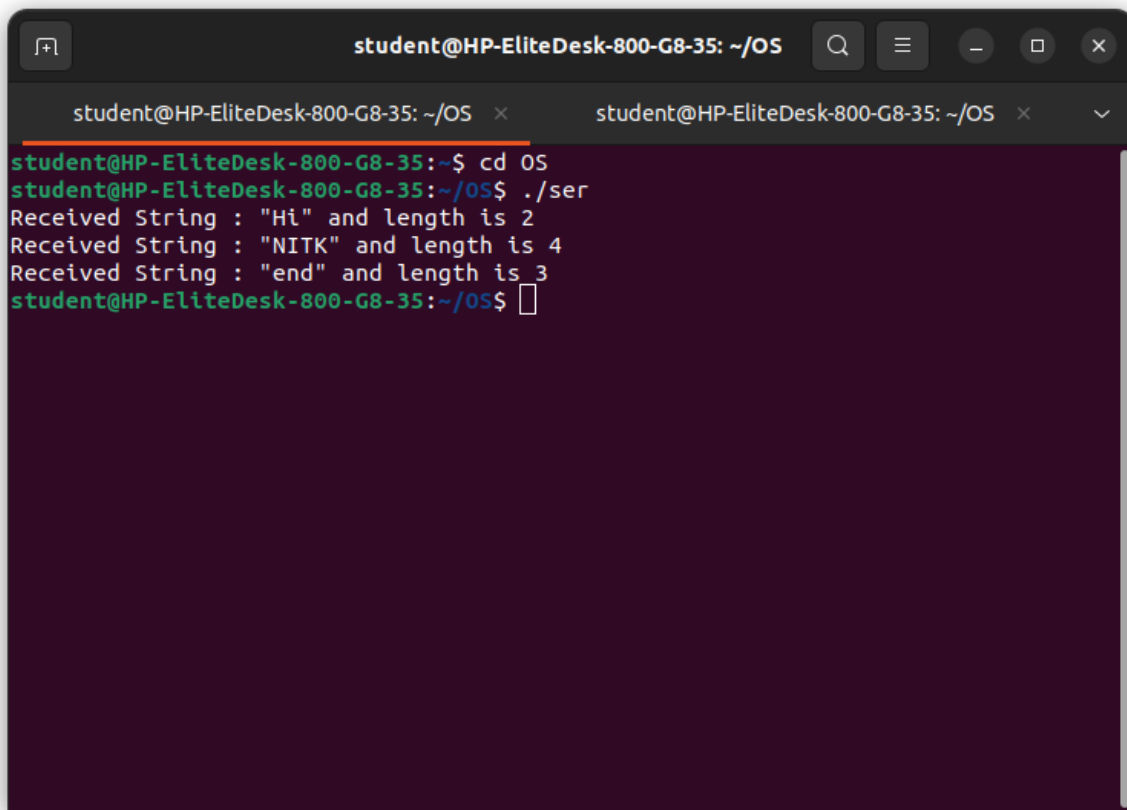
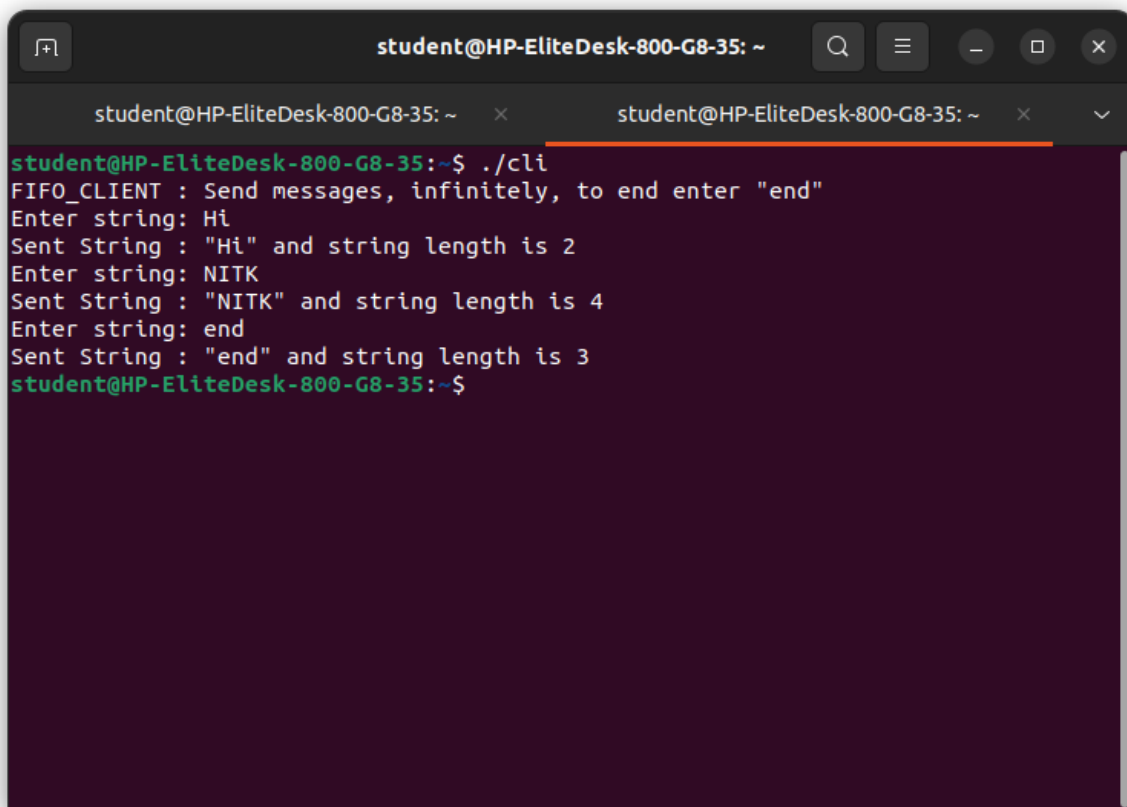


2.



```
student@HP-EliteDesk-800-G8-35: ~/OS
student@HP-EliteDesk-800-G8-35: ~/OS$ cd OS
student@HP-EliteDesk-800-G8-35: ~/OS$ ./ser
Received String : "Hi" and length is 2
Received String : "NITK" and length is 4
Received String : "end" and length is 3
student@HP-EliteDesk-800-G8-35: ~/OS$
```



```
student@HP-EliteDesk-800-G8-35: ~
student@HP-EliteDesk-800-G8-35: ~$ ./cli
FIFO_CLIENT : Send messages, infinitely, to end enter "end"
Enter string: Hi
Sent String : "Hi" and string length is 2
Enter string: NITK
Sent String : "NITK" and string length is 4
Enter string: end
Sent String : "end" and string length is 3
student@HP-EliteDesk-800-G8-35: ~$
```

2. Server :

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

#define FIFO_FILE "/tmp/fifo_twoway"
void capitalise_string(char *);
int main() {
    int fd;
    char readbuf[80];
    char end[10];
    int to_end;
    int read_bytes;

    /* Create the FIFO if it does not exist */
    mkfifo(FIFO_FILE, S_IFIFO|0640);
    strcpy(end, "end");
    fd = open(FIFO_FILE, O_RDWR);
    while(1) {
        read_bytes = read(fd, readbuf, sizeof(readbuf));
        readbuf[read_bytes] = '\0';
        to_end = strcmp(readbuf, end);

        if (to_end == 0) {
            printf("Ending\n");
            close(fd);
            break;
        }
        char org[80];
        strcpy(org, readbuf);
        capitalise_string(readbuf);
        printf("Received String is %s and Capitalised String is %s\n",
org, readbuf);
        write(fd, readbuf, strlen(readbuf));
        sleep(2);
    }
    return 0;
}
```

```

void capitalise_string(char *str) {
    int i = 0;

    while (str[i] != '\0') {
        str[i] = toupper(str[i]);
        i++;
    }
    return;
}

```

```

student@HP-EliteDesk-800-G8-35: ~/OS
student@HP-EliteDesk-800-G8-35: ~/OS
student@HP-EliteDesk-800-G8-35:~/OS$ ./new_ser
Received String is Hi and Capitalised String is HI
Received String is text and Capitalised String is TEXT
Ending
student@HP-EliteDesk-800-G8-35:~/OS$ 

```

Client :

```

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

#define FIFO_FILE "/tmp/fifo_twoway"

int main() {
    int fd;
    int end_process;

```

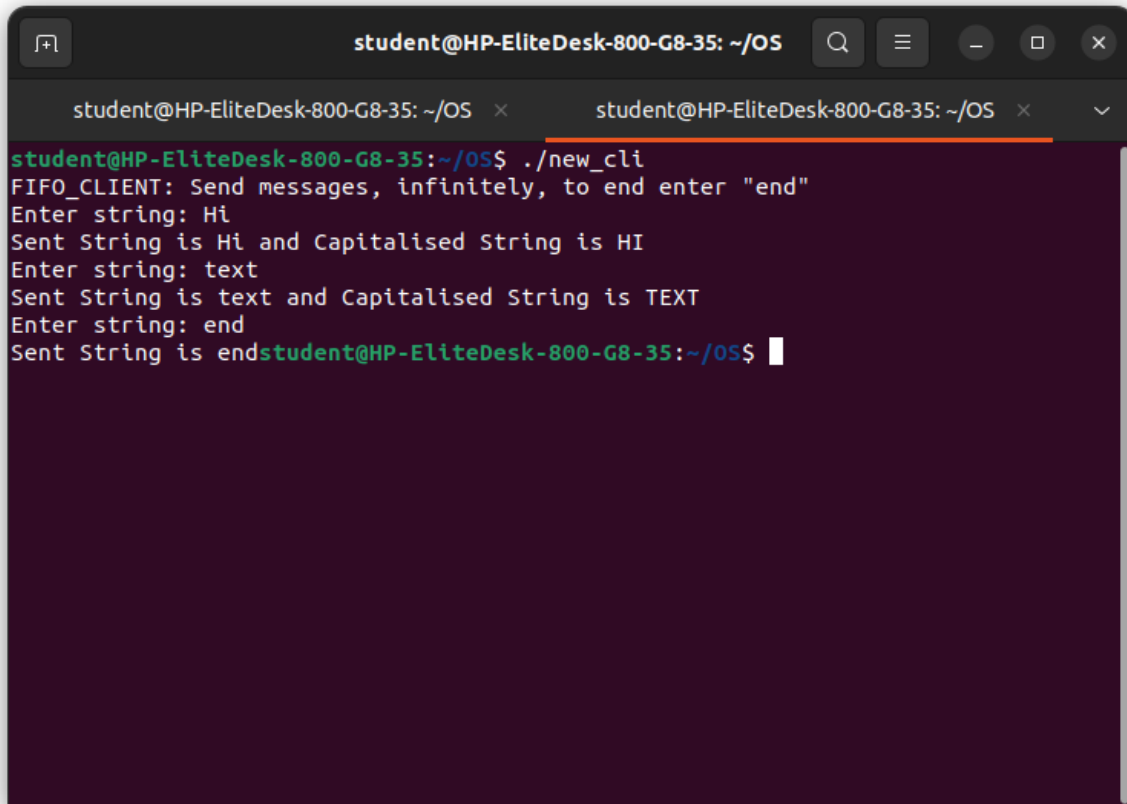
```

int stringlen;
int read_bytes;
char readbuf[80];
char end_str[5];
printf("FIFO_CLIENT: Send messages, infinitely, to end enter
\"end\\\"\\n");
fd = open(FIFO_FILE, O_CREAT|O_RDWR);
strcpy(end_str, "end");

while (1) {
    printf("Enter string: ");
    fgets(readbuf, sizeof(readbuf), stdin);
    stringlen = strlen(readbuf);
    readbuf[stringlen - 1] = '\\0';
    end_process = strcmp(readbuf, end_str);
    char org[80];

    //printf("end_process is %d\\n", end_process);
    if (end_process != 0) {
        write(fd, readbuf, strlen(readbuf));
        strcpy(org, readbuf);
        read_bytes = read(fd, readbuf, sizeof(readbuf));
        readbuf[read_bytes] = '\\0';
        printf("Sent String is %s and Capitalised String is %s\\n", org,
readbuf);
    } else {
        write(fd, readbuf, strlen(readbuf));
        printf("Sent String is %s", readbuf);
        close(fd);
        break;
    }
}
return 0;
}

```



```
student@HP-EliteDesk-800-G8-35: ~/OS
student@HP-EliteDesk-800-G8-35: ~/OS
student@HP-EliteDesk-800-G8-35:~/OS$ ./new_cli
FIFO_CLIENT: Send messages, infinitely, to end enter "end"
Enter string: Hi
Sent String is Hi and Capitalised String is HI
Enter string: text
Sent String is text and Capitalised String is TEXT
Enter string: end
Sent String is endstudent@HP-EliteDesk-800-G8-35:~/OS$
```

3.