

Q4

Write C program that perform client/server communication using shared-memory.

Code

Server.c

```

emad@vbox: ~/Desktop/emad1007395/assignment5/Q4
GNU nano 2.5.3      File: server.c

#include <sys/types.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <stdio.h>
#include <stdlib.h>

#define MAXSIZE      27

void die(char *s)
{
    perror(s);
    exit(1);
}

int main()
{
    char c;
    int shmid;
    key_t key;
    char *shm, *s;

    key = 5678;

    if ((shmid = shmget(key, MAXSIZE, IPC_CREAT | 0666)) < 0)
        die("shmget");

    if ((shm = shmat(shmid, NULL, 0)) == (char *) -1)
        die("shmat");
    /* Put some things into the memory for the
     * other process to read. */
    s = shm;

    for (c = 'a'; c <= 'z'; c++)
        *s++ = c;
    /* Wait until the other process
     * changes the first character of our memory
     * to '*', indicating that it has read what
     * we put there. */
    while (*shm != '*')
        sleep(1);

    exit(0);
}
[ Read 45 lines ]
^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify
^X Exit      ^R Read File ^\ Replace   ^U Uncut Text ^T To Spell

```

Client.c

```
emad@vbox: ~/Desktop/emad1007395/assignment5/Q4
GNU nano 2.5.3      File: client.c

#include <sys/types.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <stdio.h>
#include <stdlib.h>
#define MAXSIZE      27

void die(char *s)
{
    perror(s);
    exit(1);
}

int main()
{
    int shmid;
    key_t key;
    char *shm, *s;

    key = 5678;

    if ((shmid = shmget(key, MAXSIZE, 0666)) < 0)
        die("shmget");

    if ((shm = shmat(shmid, NULL, 0)) == (char *) -1)
        die("shmat");

    //Now read what the server put in the memory.
    for (s = shm; *s != '\0'; s++)
        putchar(*s);
    putchar('\n');
    /*Change the first character of the
    *segment to '*', indicating we have read
    *the segment.*/
    *shm = '*';
    exit(0);
}

^G Get Help      ^O Write Out    ^W Where Is     ^K Cut Text
^X Exit          ^R Read File    ^\ Replace      ^U Uncut Text
```