TECHNO MAIN , SALT LAKE

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DEPT........ Electronics and Communication ....

SUBJECT NAME & CODE......... EC-692 ......

.... Computer Network Lab ....

client.c

```c
#include <stdio.h>
#include <string.h>
#include <sys/socket.h>
#include <netinet/ip.h>
#include <netinet/in.h>
#include <arpa/inet.h>
#include <unistd.h>
int main(){
    int n, cid, sid, l, N, i, res;
    struct sockaddr_in s, c; char ch;
    sid = socket(AF_INET,SOCK_STREAM,0);
    s.sin_family = AF_INET;
    s.sin_port = htons(1234);
    inet_aton("127.0.0.1",&s.sin_addr);
    puts("Ready to send"); l = sizeof(c);
    connect(sid, (struct sockaddr*)&s, sizeof(s));
    char bitseq[100];
    puts("Enter the message");
    fgets(bitseq,100,stdin);
    puts("Sequence obtained.Sending Sequence to Server...");
    write(sid,bitseq,strlen(bitseq));
    char new_bitseq[101];
    n = read(sid,&new_bitseq,sizeof(new_bitseq));
    printf("\nThe modified bit sequence is: %s\n",
new_bitseq);close(sid); return 0;}
```

server.c

```c
#include <stdio.h>
#include <string.h>
#include <pthread.h>
#include <sys/socket.h>
#include <netinet/ip.h>
#include <netinet/in.h>
#include <arpa/inet.h>
#include <unistd.h>
#include <stdlib.h>
int sid;
struct sockaddr_in s, c;
void* multi_client(void* arg)
{
    int cid, l, n;
    char bits[100];
    l = sizeof(c);
    cid = accept(sid, (struct sockaddr*)&s, &l);
    if(cid<0){
        printf("error");
        exit(0);
    }
    n = read(cid,bits,sizeof(bits));
    bits[n] = '\0';
```

```c
        int size_l = strlen(bits);
        int count = 0;
        for(int i=0;i<size_l;i++){
            if(bits[i]=='1')
                count++; }
        //printf("%d",count);
        if(count%2==1){
            printf("%s",bits);
            printf("\n1\n");
            bits[size_l]='1';}
         else{
             printf("%s",bits); printf("\n0\n");bits[size_l]='0';}
        write(cid,&bits,sizeof(bits));
        close(cid);}
  int main(){
        int MAX_CONNECTIONS = 3,temp;
        char bits[100];
        pthread_t th[MAX_CONNECTIONS];
        sid = socket(AF_INET,SOCK_STREAM,0);
        s.sin_family = AF_INET;
        s.sin_port = htons(1234);
        inet_aton("127.0.0.1",&s.sin_addr);
        puts("Server started!");
        bind(sid, (struct sockaddr*)&s, sizeof(s));
        listen(sid,MAX_CONNECTIONS); temp=MAX_CONNECTIONS;
        while(temp--)
            pthread_create(&th[temp],NULL,multi_client,NULL);
        temp=MAX_CONNECTIONS;
        while(temp--)
            pthread_join(th[temp],NULL);
        close(sid); puts("Server Closed"); return 0;}
```



```
intel@intel-HP-Notebook: ~/Documents/network_la...

intel@intel-HP-Notebook:~/Documents/network_lab/exp_5$ gcc server5.c -o se
rver5.o -pthread
intel@intel-HP-Notebook:~/Documents/network_lab/exp_5$ ./server5.o
Server started!
1

1
2

0
4

0
Server Closed
intel@intel-HP-Notebook:~/Documents/network_lab/exp_5$ []
```

```
intel@intel-HP-Notebook: ~/Documents/network_la...

intel@intel-HP-Notebook:~/Documents/network_lab/exp_5$ gcc client5.c -o cl
ient5.o -pthread
intel@intel-HP-Notebook:~/Documents/network_lab/exp_5$ ./client5.o
Ready to send
Enter the message
1
Sequence obtained.Sending Sequence to Server...

The modified bit sequence is: 1
1
intel@intel-HP-Notebook:~/Documents/network_lab/exp_5$ []
```

```
intel@intel-HP-Notebook: ~/Documents/network_la...

intel@intel-HP-Notebook:~/Documents/network_lab/exp_5$ ./client5.o
Ready to send
Enter the message
4
Sequence obtained.Sending Sequence to Server...

The modified bit sequence is: 4
0
intel@intel-HP-Notebook:~/Documents/network_lab/exp_5$ []
```

```
intel@intel-HP-Notebook: ~/Documents/network_la...

intel@intel-HP-Notebook:~/Documents/network_lab/exp_5$ ./client5.o
Ready to send
Enter the message
2
Sequence obtained.Sending Sequence to Server...

The modified bit sequence is: 2
0
intel@intel-HP-Notebook:~/Documents/network_lab/exp_5$ []
```