Assignment 2
Of
Network & Distributed System Lab (CS2051)
Masters of Technology in Computer Science And Engineering

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Write UDP Chat Program.

Answer.

```
1  //This is the Server side implementation of UDP Chat
2
3  #include<sys/types.h>
4  #include<sys/socket.h>
5  #include<netinet/in.h>
6  #include<arpa/inet.h>
7  #include<netdb.h>
8  #include<stdio.h>
9  #include<unistd.h>
10 #include<string.h>
11
12 #define MAX_MSG 100
13 #define SERVER_ADDR "127.0.0.1"
14 #define SERVER_PORT 1500
15
16 int main()
17 {
18 int sd,rc,n,cliLen;
19 struct sockaddr x;
20 struct sockaddr_in cliAddr,servAddr;
21 char msg[MAX_MSG];
22
23 printf("\n sockaddr %ld",sizeof(x));
24 printf("\n long %ld",sizeof(long));
25 printf("\nint %ld",sizeof(int));
26 printf("\n sockaddr_in %ld",sizeof(cliAddr));
27 printf("\n short %ld\n",sizeof(short));
28
29 // build server address structure/*
30
31 bzero((char *)&servAddr,sizeof(servAddr));
32 servAddr.sin_family=AF_INET;
33 servAddr.sin_addr.s_addr=inet_addr(SERVER_ADDR);
34 servAddr.sin_port=htons(SERVER_PORT);
35 //CREATE DATAGRAM SOCKET
36
37 sd=socket(AF_INET,SOCK_DGRAM,0);
38 printf("datagram socket craeted successfully\n");
39 //BIND LOCAL PORT NUMBER
40
41
42 bind(sd,(struct sockaddr*)&servAddr,sizeof(servAddr));
43 printf("successfully bind local address\n");
44
45 printf("waiting for data on port UDP %u\n",SERVER_PORT);
46
47 while(1)
48 {
49 //init buffer
```

```c
50
51 memset(msg,0x0,MAX_MSG);
52
53 //Receive data from client
54
55 cliLen=sizeof(cliAddr);
56
57 n=recvfrom(sd,msg,MAX_MSG,0,(struct sockaddr *) &cliAddr,&cliLen);
58
59 printf("from %s: UDP port %u: %s \n",inet_ntoa(cliAddr.sin_addr),ntohs(cliAddr.sin_port),msg);
60 printf("from %ld: UDP port %ld,in network byte ordering : %s \n",cliAddr.sin_addr,cliAddr.sin_port,msg);
61
62 }
63
64 return 0;
65
66 }
```

```c
//This is the client side implementation of UDP Chat

#include<sys/types.h>
#include<sys/socket.h>
#include<netinet/in.h>
#include<arpa/inet.h>
#include<netdb.h>
#include<stdio.h>
#include<unistd.h>
#include<string.h>
#include<sys/time.h>


#define MAX_MSG 100
#define SERVER_ADDR "127.0.0.1"
#define SERVER_PORT 1500

int main()
{
int sd,rc,n,templen;
struct sockaddr x;
struct sockaddr_in cliAddr,tempAddr,remoteServAddr;
char msg[MAX_MSG];

bzero((char *)&remoteServAddr,sizeof(remoteServAddr));
remoteServAddr.sin_family=AF_INET;
remoteServAddr.sin_addr.s_addr=inet_addr(SERVER_ADDR);
remoteServAddr.sin_port=htons(SERVER_PORT);

sd=socket(AF_INET,SOCK_DGRAM,0);
printf("datagram socket craeted successfully\n");

do{
//send data to server

printf("Enter data to send:");
scanf("%s",msg);

sendto(sd,msg,strlen(msg)+1,0,(struct sockaddr *)&remoteServAddr,sizeof(remoteServAddr));

}while(strcmp(msg,"quit"));

close(sd);

}
```

(a) UDPServer

(b) UDPClient

Figure 1: Output:UDP