

Lab Evaluation – I

Network Programming

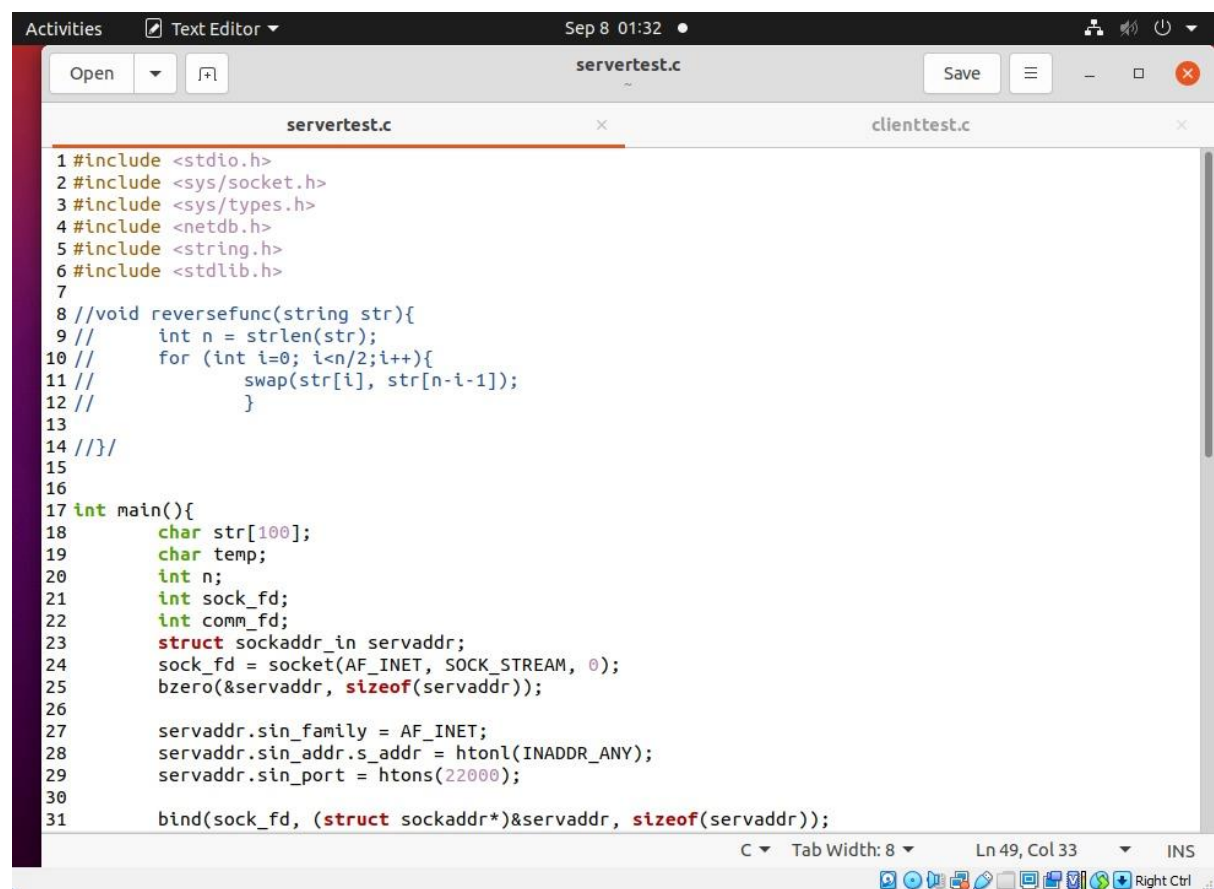
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Q) Take input from client and print in reverse

Server Side code:



```
1 #include <stdio.h>
2 #include <sys/socket.h>
3 #include <sys/types.h>
4 #include <netdb.h>
5 #include <string.h>
6 #include <stdlib.h>
7
8 //void reversefunc(string str){
9 //    int n = strlen(str);
10 //    for (int i=0; i<n/2;i++){
11 //        swap(str[i], str[n-i-1]);
12 //    }
13 //}
14 //}
15
16
17 int main(){
18     char str[100];
19     char temp;
20     int n;
21     int sock_fd;
22     int comm_fd;
23     struct sockaddr_in servaddr;
24     sock_fd = socket(AF_INET, SOCK_STREAM, 0);
25     bzero(&servaddr, sizeof(servaddr));
26
27     servaddr.sin_family = AF_INET;
28     servaddr.sin_addr.s_addr = htonl(INADDR_ANY);
29     servaddr.sin_port = htons(22000);
30
31     bind(sock_fd, (struct sockaddr*)&servaddr, sizeof(servaddr));
```

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servertest.c

Open Save

servertest.c clienttest.c

```
31 bind(sock_fd, (struct sockaddr*)&servaddr, sizeof(servaddr));
32
33 listen(sock_fd,10);
34
35 comm_fd = accept(sock_fd, (struct sockaddr*)NULL, NULL);
36
37 while(1){
38     bzero( str, 100);
39     recv(comm_fd,str,100,0);
40
41     int n = strlen(str);
42
43     int i = 0;
44     int j = strlen(str) -1;
45     while(i<j){
46         temp = str[i];
47         str[i] = str[j];
48         str[j] = temp;
49         i = i+1;
50         j = j-1;
51     }
52
53     //for (int i=0; i<n/2;i++){
54     //swap(str[i], str[n-i-1]);
55     //}
56     //reversefunc(str);
57
58     //strrev(str);
59
60
61     printf("Recieved string is- %s",str);
```

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servertest.c

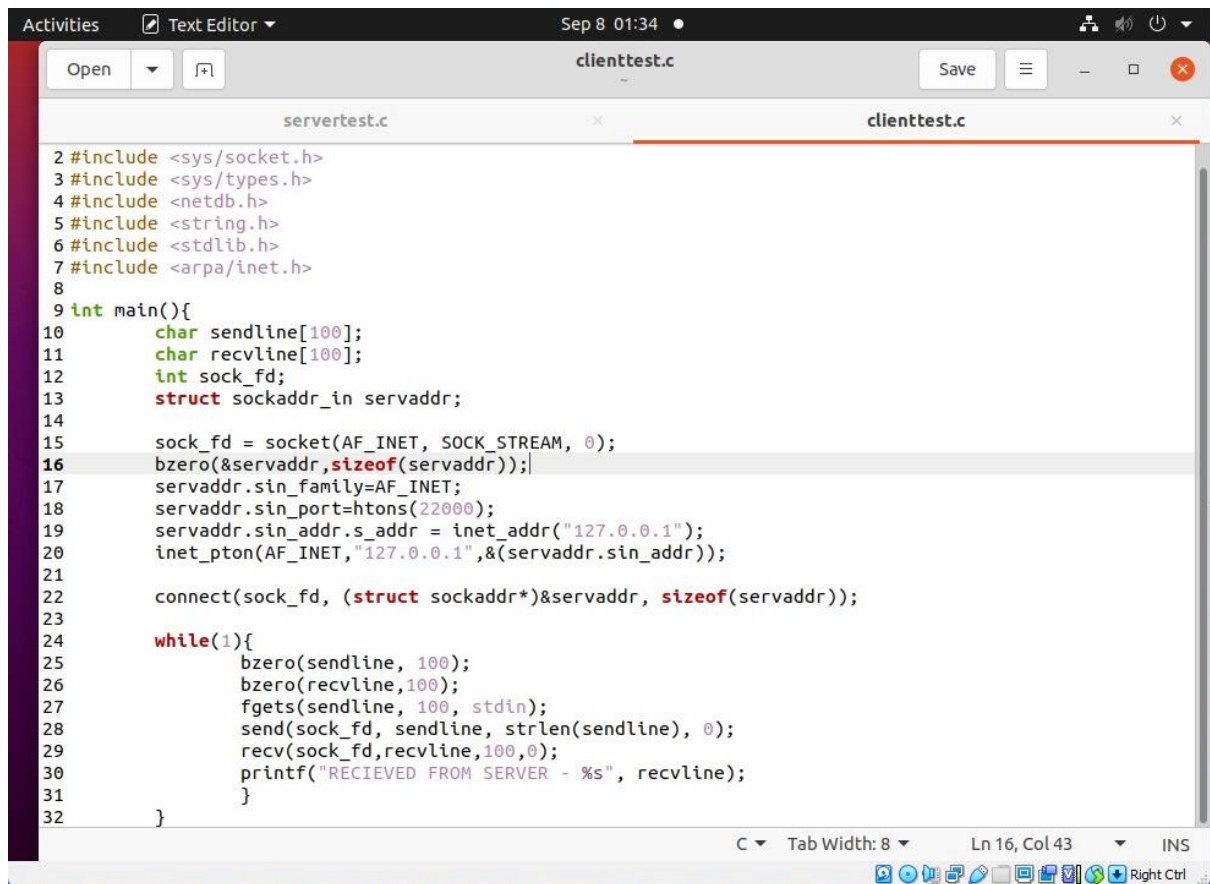
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servertest.c clienttest.c

```
38 bzero( str, 100);
39 recv(comm_fd,str,100,0);
40
41 int n = strlen(str);
42
43 int i = 0;
44 int j = strlen(str) -1;
45 while(i<j){
46     temp = str[i];
47     str[i] = str[j];
48     str[j] = temp;
49     i = i+1;
50     j = j-1;
51 }
52
53 //for (int i=0; i<n/2;i++){
54 //swap(str[i], str[n-i-1]);
55 //}
56 //reversefunc(str);
57
58 //strrev(str);
59
60
61 printf("Recieved string is- %s",str);
62
63
64 send(comm_fd,str,strlen(str),0);
65
66 }
67 return 0;
68 }
```

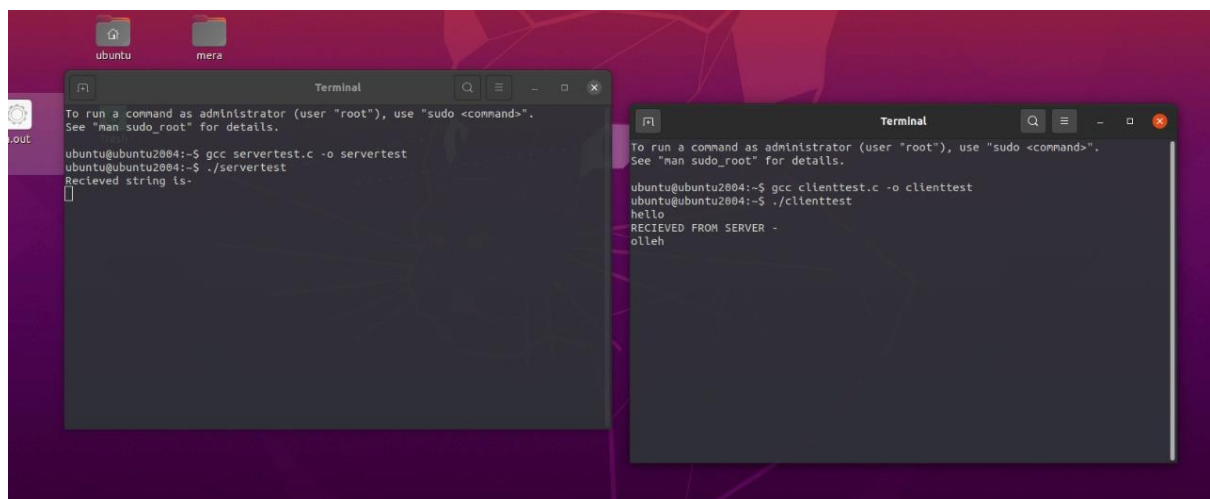
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Client Side Code:



```
1 #include <sys/socket.h>
2 #include <sys/types.h>
3 #include <netdb.h>
4 #include <string.h>
5 #include <stdlib.h>
6 #include <arpa/inet.h>
7
8 int main(){
9     char sendline[100];
10    char recvline[100];
11    int sock_fd;
12    struct sockaddr_in servaddr;
13
14    sock_fd = socket(AF_INET, SOCK_STREAM, 0);
15    bzero(&servaddr, sizeof(servaddr));
16    servaddr.sin_family=AF_INET;
17    servaddr.sin_port=htons(22000);
18    servaddr.sin_addr.s_addr = inet_addr("127.0.0.1");
19    inet_pton(AF_INET, "127.0.0.1", &(servaddr.sin_addr));
20
21    connect(sock_fd, (struct sockaddr*)&servaddr, sizeof(servaddr));
22
23    while(1){
24        bzero(sendline, 100);
25        bzero(recvline, 100);
26        fgets(sendline, 100, stdin);
27        send(sock_fd, sendline, strlen(sendline), 0);
28        recv(sock_fd, recvline, 100, 0);
29        printf("RECIEVED FROM SERVER - %s", recvline);
30    }
31 }
```

OUTPUT:



```
ubuntu@ubuntu2004:~$ gcc servertest.c -o servertest
ubuntu@ubuntu2004:~$ ./servertest
Received string is-

ubuntu@ubuntu2004:~$ gcc clienttest.c -o clienttest
ubuntu@ubuntu2004:~$ ./clienttest
hello
RECIEVED FROM SERVER -
olleh
```