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CN lab 3

1. Write a client server program where the client sends and the server accepts it and prints it till exit is not sent.

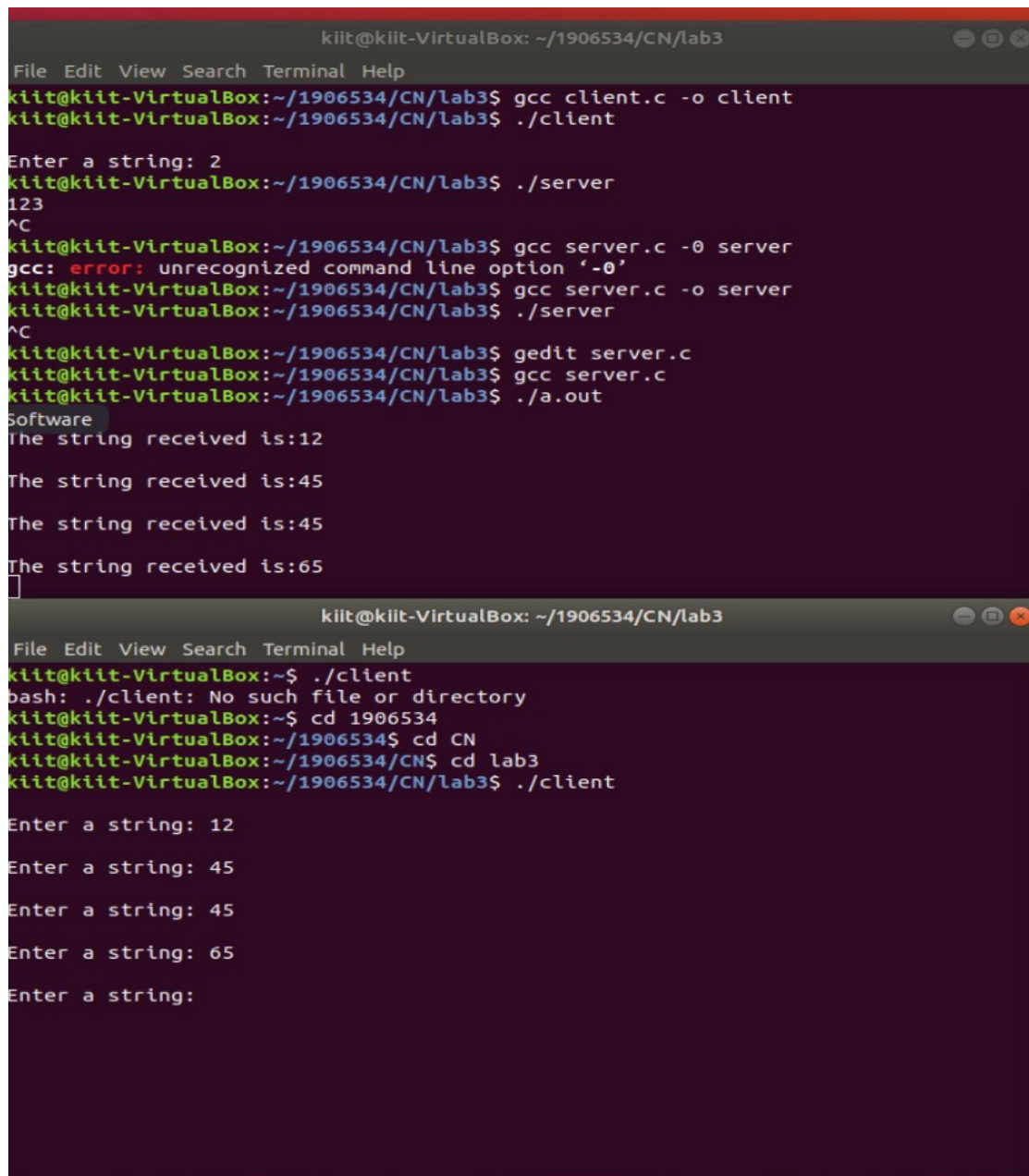
```
#include <arpa/inet.h>
#include <netinet/in.h>
#include <stdio.h>
#include <string.h>
#include <sys/socket.h>
#include <sys/stat.h>
#include <unistd.h>
#include <sys/types.h>

int main()
{
    struct sockaddr_in client, server;
    int s, n, sock, flag_534=0;
    char b1_534[20];
    s = socket(AF_INET, SOCK_STREAM, 0);
    server.sin_family = AF_INET;
    server.sin_port = 2000;
    server.sin_addr.s_addr = inet_addr("127.0.0.1");
    bind(s, (struct sockaddr*)&server, sizeof server);
    listen(s, 1);
    n = sizeof client;
    sock = accept(s, (struct sockaddr*)&client, &n);
    while(flag_534==0)
    {
        recv(sock, b1_534, sizeof(b1_534), 0);
        if(strcmp(b1_534,"exit")==0)
            flag_534=1;
        printf("\nThe string received is:%s\n", b1_534);
    }
    close(sock);
    close(s);
}
```

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

int main()
{
    struct sockaddr_in client;
    int s, flag_534;
    char buffer_534[20];
    s = socket(AF_INET, SOCK_STREAM, 0);
    client.sin_family = AF_INET;
    client.sin_port = 2000;
    client.sin_addr.s_addr = inet_addr("127.0.0.1");
    connect(s, (struct sockaddr*)&client, sizeof client);
    for (;;) {
        printf("\nEnter a string: ");
        scanf("%s", buffer_534);
        send(s, buffer_534, sizeof(buffer_534), 0);
        if(strcmp(buffer_534,"exit")==0)
            break;
    }
    close(s);
}
```

OUTPUT:



The image shows two screenshots of a terminal window titled 'kiit@kiit-VirtualBox: ~/1906534/CN/lab3'. The top screenshot shows the compilation of 'client.c' and 'server.c' using 'gcc'. The 'client.c' compilation is successful. The 'server.c' compilation fails with the error 'gcc: error: unrecognized command line option '-o''. After correcting the command to 'gcc server.c -o server', the program is executed. The client sends the string '123', and the server prints 'The string received is:12'. The client then sends '45', and the server prints 'The string received is:45'. The client sends '45' again, and the server prints 'The string received is:45'. Finally, the client sends '65', and the server prints 'The string received is:65'. The bottom screenshot shows the client program being executed from the directory '~/1906534/CN/lab3'. It prints 'Enter a string: 12', 'Enter a string: 45', 'Enter a string: 45', and 'Enter a string: 65'.

```
kiit@kiit-VirtualBox: ~/1906534/CN/lab3
File Edit View Search Terminal Help
kiit@kiit-VirtualBox:~/1906534/CN/lab3$ gcc client.c -o client
kiit@kiit-VirtualBox:~/1906534/CN/lab3$ ./client
Enter a string: 2
kiit@kiit-VirtualBox:~/1906534/CN/lab3$ ./server
123
^C
kiit@kiit-VirtualBox:~/1906534/CN/lab3$ gcc server.c -o server
gcc: error: unrecognized command line option '-o'
kiit@kiit-VirtualBox:~/1906534/CN/lab3$ gcc server.c -o server
kiit@kiit-VirtualBox:~/1906534/CN/lab3$ ./server
^C
kiit@kiit-VirtualBox:~/1906534/CN/lab3$ gedit server.c
kiit@kiit-VirtualBox:~/1906534/CN/lab3$ gcc server.c
kiit@kiit-VirtualBox:~/1906534/CN/lab3$ ./a.out
Software
The string received is:12

The string received is:45

The string received is:45

The string received is:65

```

```
kiit@kiit-VirtualBox: ~/1906534/CN/lab3
File Edit View Search Terminal Help
kiit@kiit-VirtualBox:~$ ./client
bash: ./client: No such file or directory
kiit@kiit-VirtualBox:~$ cd 1906534
kiit@kiit-VirtualBox:~/1906534$ cd CN
kiit@kiit-VirtualBox:~/1906534/CN$ cd lab3
kiit@kiit-VirtualBox:~/1906534/CN/lab3$ ./client

Enter a string: 12

Enter a string: 45

Enter a string: 45

Enter a string: 65

Enter a string:

```

2. Write a client server program to reverse a number which client sends to the server

```
#include <arpa/inet.h>
#include <netinet/in.h>
#include <unistd.h>
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <sys/socket.h>
#include <sys/stat.h>
#include <sys/types.h>
int main()
{
    struct sockaddr_in client, server;
    int s, n, sock;
    char a_534[100],*b;
    s = socket(AF_INET, SOCK_STREAM, 0);
    server.sin_family = AF_INET;
    server.sin_port = 2000;
    server.sin_addr.s_addr = inet_addr("127.0.0.1");
    bind(s, (struct sockaddr*)&server, sizeof server);
    listen(s, 1);
    n = sizeof client;
```

```
sock = accept(s, (struct sockaddr*)&client, &n);
recv(s, a_534, sizeof(a_534), 0);
send(s,a_534,sizeof(a_534),0);
close(sock);
close(s);
}
```

```
#include <arpa/inet.h>
#include <netinet/in.h>
#include <stdio.h>
#include <string.h>
#include <sys/socket.h>
#include <stdlib.h>
#include <unistd.h>
#include <sys/stat.h>
#include <sys/types.h>
int main()
{
    struct sockaddr_in client;
    int l_534,s_534, flag_534;
    char buffer_534[20];
    s_534 = socket(AF_INET, SOCK_STREAM, 0);
    client.sin_family = AF_INET;client.sin_port = 2000;
    client.sin_addr.s_addr = inet_addr("127.0.0.1");
    connect(s_534, (struct sockaddr*)&client, sizeof client);
    scanf("%s_534",buffer_534);
    send(s_534,buffer_534,sizeof(buffer_534),0);
    recv(s_534,buffer_534,sizeof(buffer_534),0);
    l_534=strlen(buffer_534);
    for(int i=l_534-1;i>=0;i--)
    printf("%c",buffer_534[i]);
    close(s_534);
}
```