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Roll no - 40

SRN – 201900754

DIV – A

◆ CN Assignment - 4 ◆

SOURCE CODE:

CLIENT SIDE -

```
#include <sys/types.h>
```

```
#include <netinet/in.h>
```

```
#include <arpa/inet.h>
```

```
#include <netdb.h>
```

```
#include <stdio.h>
```

```
#include <string.h>
```

```
#include <stdlib.h>
```

```
#include <unistd.h>
```

```
#include <errno.h>
```

```
int main()
```

```
{
```

```

int sock,val,i,count,port;

char recvdata[50],sentdata[50];

struct sockaddr_in server_addr;

printf("\n\n Client Running ..... ");

if ((sock = socket(AF_INET, SOCK_STREAM, 0)) == -1)

{

perror("Socket");

exit(1);

}

printf("\nEnter the port number :");

scanf("%d",&port);

server_addr.sin_family = AF_INET;

server_addr.sin_port = htons(port);

server_addr.sin_addr.s_addr= htonl(INADDR_ANY);

bzero(&(server_addr.sin_zero),8);

if (connect(sock, (struct sockaddr *)&server_addr,
sizeof(struct
sockaddr)) == -1)

```

```
{  
perror("Connect");  
exit(1);  
}  
while(1)  
{  
//get the pack number from client  
printf("\n Enter packet number :");  
scanf("%d",&val);  
// sent the value to server  
send(sock,&val,sizeof(val),0);  
// get the data from the user  
printf("\n\n Enter data :");  
scanf("%s",sntdata);  
// sent the to server  
send(sock,sntdata,strlen(sntdata),0);  
if(strcmp(sntdata,"end")==0)
```

```
break;

// recev the result from server

recv(sock,&count,sizeof(count),0);

i=recv(sock,recvdata,50,0);

recvdata[i]='\0';

printf("\n %s %d",recvdata,count);

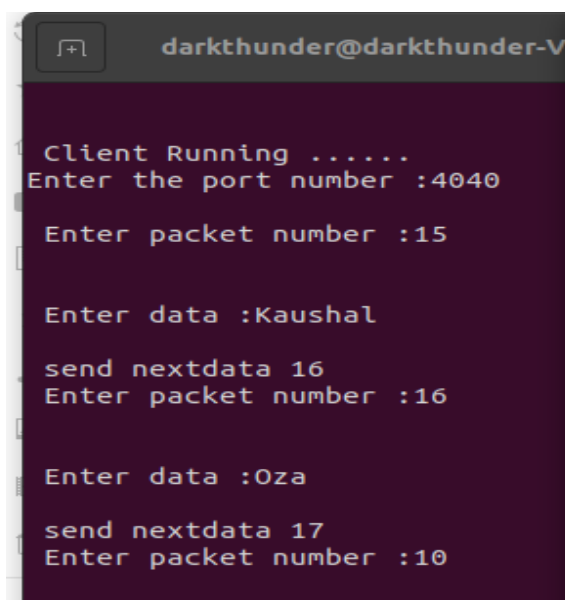
}

close(sock);

return 0;

}
```

Output-

A screenshot of a terminal window with a dark purple background and light green text. The window title is 'darkthunder@darkthunder-V'. The terminal shows the following output:

```
Client Running .....
Enter the port number :4040

Enter packet number :15

Enter data :Kaushal

send nextdata 16
Enter packet number :16

Enter data :Oza

send nextdata 17
Enter packet number :10
```

SERVER SIDE-

```
#include <sys/types.h>
```

```
#include <netinet/in.h>
```

```
#include <netdb.h>
```

```
#include <stdio.h>
```

```
#include <string.h>
```

```
#include <stdlib.h>
```

```
#include <unistd.h>
```

```
#include <errno.h>
```

```
int main()
```

```
{
```

```
    int sock, size, connect;
```

```
    char senddata[50], data[50];
```

```
    int val, count, i, port;
```

```
    struct sockaddr_in ser, cli;
```

```
    printf("\n\n Server Running ..... ");
```

```
if ((sock = socket(AF_INET, SOCK_STREAM, 0)) == -1)
{
    perror("\n Socket Creation Error");
    exit(-1);
}

printf("\nEnter the port number : ");
scanf("%d", &port);

ser.sin_family = AF_INET;
ser.sin_port = htons(port);
ser.sin_addr.s_addr = INADDR_ANY;
bzero(&(ser.sin_zero), 8);

if (bind(sock, (struct sockaddr *)&ser, sizeof(struct
sockaddr)) == -1)
{
    perror("\n\t Error in Bind");
    exit(-1);
}

if (listen(sock, 2) == -1)
```

```
{  
perror("\n\t Error in Listen");  
exit(-1);  
}  
  
printf("\n\t Waiting for connection ");  
size = sizeof(struct sockaddr);  
connect = accept(sock, (struct sockaddr *)&cli, &size);  
if (connect == -1)  
{  
perror("\n\t Connection Failed :");  
exit(-1);  
}  
  
printf("\n\t Connected Successfully");  
printf("\n");  
  
// get the pocket number from client  
recv(connect, &val, sizeof(val), 0);  
count = val;
```

```
while (1)
{
i = recv(connect, &data, sizeof(data), 0);
data[i] = '\0';
if (strcmp(data, "end") == 0)
{
printf("\n\t Finished");
break;
}
if (count != val)
{
strcpy(senddata, "packet missing");
send(connect, &count, sizeof(count), 0);
send(connect, senddata, strlen(senddata), 0);
}
else
{
```



```
printf("\n The packet Number is : %d", val);  
printf("\n The data is :%s", data);  
count++;  
strcpy(senddata, "send nextdata");  
send(connect, &count, sizeof(count), 0);  
send(connect, senddata, strlen(senddata), 0);  
}  
printf("\n The Expected Packet now is: %d \n", count);  
recv(connect, &val, sizeof(val), 0);  
}  
close(connect);  
close(sock);  
return 0;  
}
```

Output-

```
darkthunder@darkthunder-VirtualBox:~/k...
darkthunder@darkthunder-VirtualBox:~/k...
darkthunder@darkthunder-VirtualBox:~/k...

Server Running .....
Enter the port number : 4040

        Waiting for connection
        Connected Successfully

The packet Number is : 15
The data is :Kaushal
The Expected Packet now is: 16

The packet Number is : 16
The data is :Oza
The Expected Packet now is: 17

The Expected Packet now is: 17

```