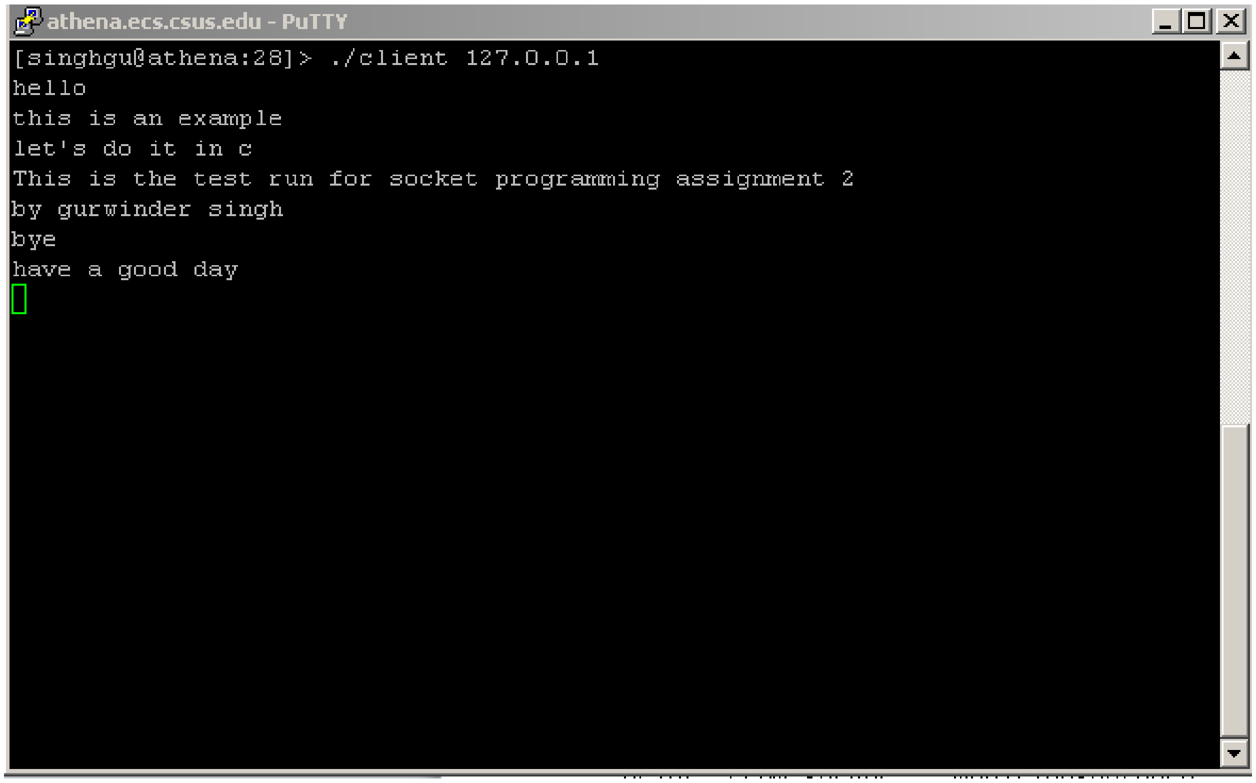
Gurwinder Singh

CSC138-03

Report for Socket Prg Project 4-C

Client

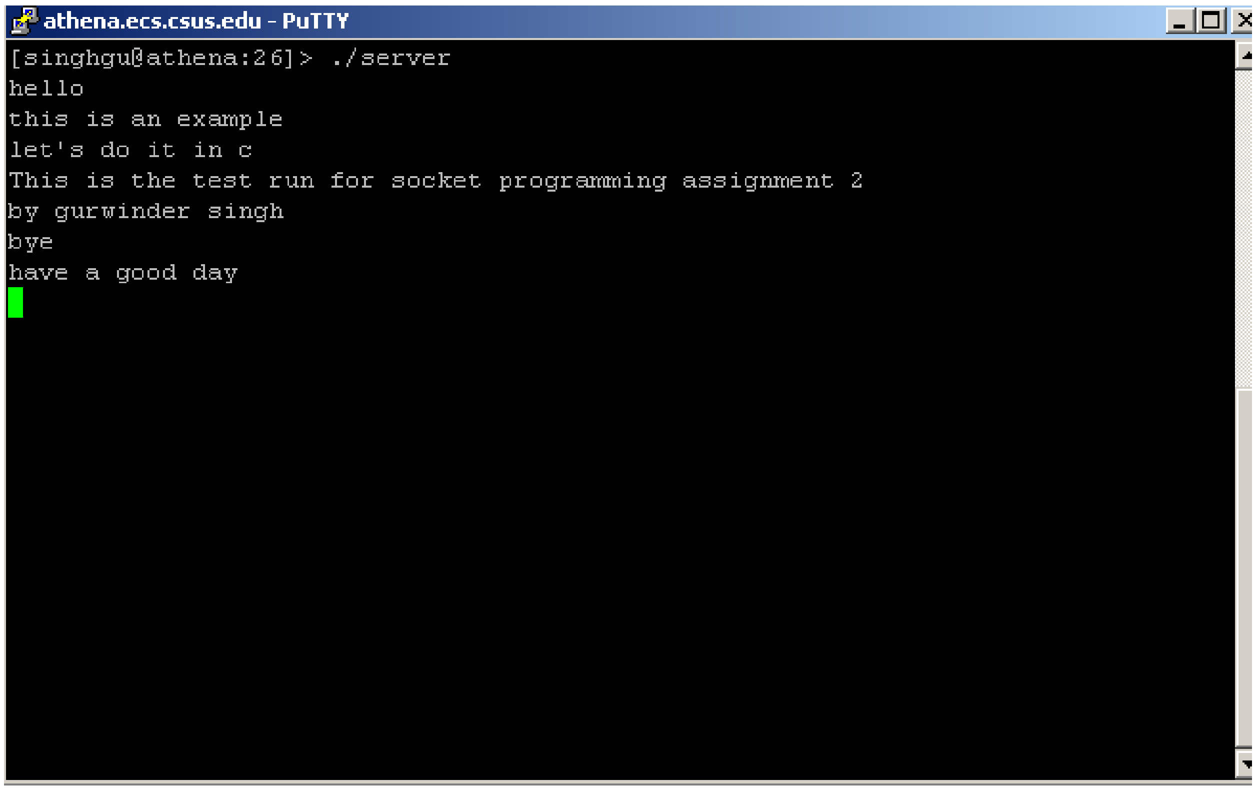


```
[singhgu@athena:28]> ./client 127.0.0.1
hello
this is an example
let's do it in c
This is the test run for socket programming assignment 2
by gurwinder singh
bye
have a good day
```

Source Code:

```
#include <stdio.h>
#include <sys/types.h>
#include <stdlib.h>
#include <strings.h>
#include <string.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <unistd.h>
#include <netdb.h>

#define SERVER_PORT 5432

#define MAX_LINE 256

int main(int argc, char * argv[])
{
        FILE *fp;
        struct hostent *hp;
        struct sockaddr_in sin;
        char *host;
        char buf[MAX_LINE];
        int s;
        int len;

        host = argv[1];


/* translate host name into peer's IP address */

        hp = gethostbyname(host);

/* build address data structure */

        bzero((char *)&sin, sizeof(sin));

        sin.sin_family = AF_INET; /* Internet Address*/

        bcopy(hp->h_addr, (char *)&sin.sin_addr, hp->h_length);

        sin.sin_port = htons(SERVER_PORT);

/* active open PF_INET is protocol family*/


        int sockfd = socket (AF_INET, SOCK_STREAM, 0);// creating a socket

        if(connect(socketfd, (struct sockaddr *) &sin, sizeof(sin)) < 0)
        {
                printf("Socket connection failed");//connection with server
                return EXIT_FAILURE;
        }



/* main loop: get and send lines of text */

        while (1){

        bzero (buf, MAX_LINE);
        fgets(buf, sizeof(buf), stdin);

        buf[MAX_LINE-1] = '\0';

        len = strlen(buf) + 1;

        send(sockfd, buf, len, 0);

        }
close (sockfd);
return 0;

}
```

Server



```
[singhgu@athena:26]> ./server
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```
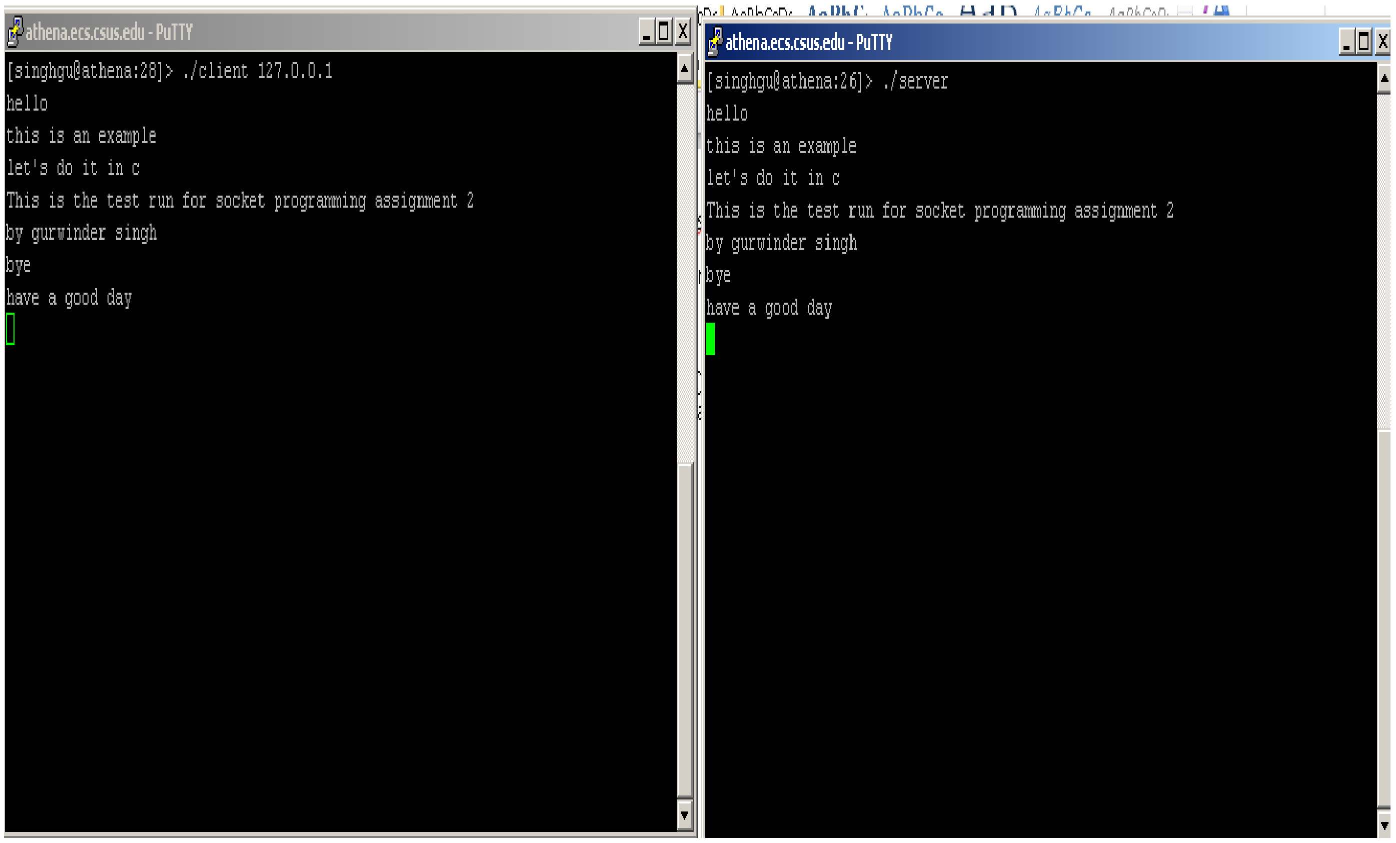

Source Code:

```
#include <stdio.h>
#include <sys/types.h>
#include <stdlib.h>
#include <strings.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <unistd.h>
#include <netdb.h>
#define SERVER_PORT 5432
#define MAX_PENDING 5
#define MAX_LINE 256
int main()
{
        struct sockaddr_in sin;
        char buf[MAX_LINE];
        int len;
        int s, new_s;
/* build address data structure */
        bzero((char *)&sin, sizeof(sin));
        sin.sin_family = AF_INET;
        sin.sin_addr.s_addr = INADDR_ANY;
        sin.sin_port = htons(SERVER_PORT);
/* setup passive open */
//fill your code here to create the socket
```

```
        int sockfd = socket (AF_INET, SOCK_STREAM, 0);

        if(sockfd < 0){
                        printf("Error creating socket.");
                        return EXIT_FAILURE;
        }

//fill your code to bind the socket to the address data structure
        if ((bind (sockfd, (struct sockaddr *)&sin, sizeof(sin))) < 0){
                error("Socket Bind failed \n");
        }

//fill your code to make the socket to listen
         listen (sockfd, 2);

        int sockfd2= accept (sockfd, (struct sockaddr *) &sin, &len);
        if(sockfd2 < 0){
                        printf("Error socket conecting with client. \n");
                        return EXIT_FAILURE;
                        }

/* wait for connection, then receive and print text */
        while(1)
        {
                //fill your code to accept connections
                        bzero(buf,MAX_LINE);
                        int userinput = read( connection2,buf,MAX_LINE);
                        printf("%s", buf);


        }
        close(sockfd);
        close(sockfd2);
        return 0
}
```



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