Client-Server

Client.c

```
#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 <strings.h>

#define BUFFER 50
 #define SERVER_ADDR "127.0.0.5"
 #define CLIENT_ADDR "127.0.0.1"
 #define SERVER_PORT 3568
 #define CLIENT_PORT 8040

int main () {

int sd, rc, i,n;
 struct sockaddr_in clientAddr, servAddr;
 char line[BUFFER];

 /* build address structure */
bzero((char *)&servAddr, sizeof(servAddr));
 servAddr.sin_family = AF_INET;
 servAddr.sin_addr.s_addr = inet_addr(SERVER_ADDR);
 servAddr.sin_port = htons(SERVER_PORT);

bzero((char *)&clientAddr, sizeof(clientAddr));
 clientAddr.sin_family = AF_INET;
 clientAddr.sin_addr.s_addr = INADDR_ANY;
 clientAddr.sin_port = htons(0);

sd = socket(AF_INET, SOCK_STREAM, 0);
 printf("successfully created stream socket \n");


 /* bind local port number */
bind(sd, (struct sockaddr *) &clientAddr, sizeof(clientAddr));
 printf("bound local port successfully\n");
```

```
 /* connect to server */
connect(sd, (struct sockaddr *) &servAddr, sizeof(servAddr));
 printf("connected to server successfully\n");


do{
 printf("Enter 1st number : ");
 scanf("%s", line);

send(sd, line, strlen(line) + 1, 0);
 printf("Enter 2nd number : ");
 scanf("%s", line);
 send(sd, line, strlen(line) + 1, 0);


n=recv(sd, line, BUFFER, 0);
 printf("received from server %s\n", line);
 }while(strcmp(line, "quit"));

printf("closing connection with the server\n");
close(sd);
return 0;
 }
```

Server.c

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



#define BUFFER 50
#define SERVER_ADDR "127.0.0.5"
#define SERVER_PORT 3568


int main ( ) {

  int sd, connectionSd, cliLen;
```

```
struct sockaddr_in cliAddr, servAddr;
char line[BUFFER],line1[BUFFER];



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

sd = socket(AF_INET, SOCK_STREAM, 0);
printf("socket created successfully \n");

bind(sd, (struct sockaddr *) &servAddr, sizeof(servAddr));

listen(sd,5);

int  n,num1,num2,addition;
while(1) {

  printf("waiting for client connection on port TCP %u\n",SERVER_PORT);

  cliLen = sizeof(cliAddr);
  connectionSd = accept(sd, (struct sockaddr *) &cliAddr, &cliLen);

  printf("received connection from host \n");


  do{
    memset(line,0x0,BUFFER);

    n=recv(connectionSd, line, BUFFER, 0);
    num1=atoi(line);

    n=recv(connectionSd, line, BUFFER, 0);
    num2=atoi(line);

    addition=num1+num2;

    sprintf(line1,"%d",addition);

    printf("received from host : %s\n",  line1);
send(connectionSd, line1, strlen(line1) + 1, 0);
```

```
    }while(abs(strcmp(line, "quit")));

    printf("closing connection with host [IP %s ,TCP port %d]\n",
                inet_ntoa(cliAddr.sin_addr), ntohs(cliAddr.sin_port));

    close(connectionSd);
  }
return 0;
}
```

OUTPUT: