**Program - serverSW.c**

#include <sys/socket.h>

#include <netinet/in.h>

#include <stdio.h>

#include <string.h>

#include <stdlib.h>

#include <unistd.h>

void main(){

int s,len;

char smsg[100],rmsg[100];

struct sockaddr\_in server,client;

int frame=0, in\_frame=0;

char info[100],str1[100],str2[100];

s = socket(AF\_INET,SOCK\_DGRAM,0);

server.sin\_family = AF\_INET;

server.sin\_port = htons(3000);

server.sin\_addr.s\_addr=htonl(INADDR\_ANY);

bind(s,(struct sockaddr\*)&server, sizeof(server));

len = sizeof(client);

while(1){

frame++;

sprintf(str1,"%d",frame);

recvfrom(s,rmsg,100,0,(struct sockaddr\*)&client, &len);

if (strcmp(smsg,"quit")==0 || strcmp(rmsg,"quit")== 0)

exit(0);

printf("Message from client: %s\n",rmsg);

sscanf(rmsg,"%d",&in\_frame);

if (in\_frame == frame){

printf("Frame %d Recieved\n",in\_frame);

strcpy(smsg,rmsg);

sendto(s,smsg,100,0,(struct sockaddr\*)&client,len);

}

else{

frame--;

printf("Frame number missmatch\n");

strcpy(smsg,"Resend Frame ");

strcat(smsg,str1);

sendto(s,smsg,100,0,(struct sockaddr\*)&client,len);

}

}

close(s);

}

**Program – clientSW.c**

#include <sys/socket.h>

#include <netinet/in.h>

#include <stdio.h>

#include <string.h>

#include <stdlib.h>

#include <unistd.h>

void main(){

int c,len;

char rmsg[100],smsg[100];

struct sockaddr\_in server,client;

int frame=0,in\_frame;

char info[100],str1[100],str2[100];

c = socket(AF\_INET,SOCK\_DGRAM,0);

server.sin\_family = AF\_INET;

server.sin\_port = htons(3000);

server.sin\_addr.s\_addr=htonl(INADDR\_ANY);

bind(c,(struct sockaddr\*)&client, sizeof(client));

len = sizeof(server);

while(1){

frame ++;

sprintf(str1,"%d",frame);

printf("Enter frame number : ");

gets(smsg);

sendto(c,smsg,100,0,(struct sockaddr\*)&server,len);

if (strcmp(smsg,"quit")==0 || strcmp(rmsg,"quit")== 0)

exit(0);

recvfrom(c,rmsg,100,0,(struct sockaddr\*)&server, &len);

if (strcmp(smsg,"quit")==0 || strcmp(rmsg,"quit")== 0)

exit(0);

printf("Message from Sever : %s\n",rmsg);

sscanf(rmsg,"%d",&in\_frame);

if (in\_frame == frame){

printf("Acknowledgment %d Recieved\n",in\_frame);

}

else{

frame--;

}

}

close(c);

}

**Output**



