**Server:**

#include<stdio.h>

#include<string.h>

#include<stdlib.h>

#include<unistd.h>

#include<sys/types.h>

#include<sys/socket.h>

#include<netinet/in.h>

#include<arpa/inet.h>

#include<pthread.h>

#include<math.h>

#define MAXCLIENT 3

#define MAXSIZE 15

struct sockaddr\_in server\_address;

struct sockaddr\_in client\_address;

int temp;

void \*serve(void \*arg)

{

int client\_sockfd,client\_len;

char dat[MAXSIZE],tmp[MAXSIZE];

char val[MAXSIZE],div[MAXSIZE];

int i,j,end,start,dat\_len=0,div\_len=0;

int socket=\*((int \*)arg);

client\_len=sizeof(client\_address);

client\_sockfd=accept(socket,(struct sockaddr \*)&client\_address,&client\_len);

read(client\_sockfd,val,sizeof(val));

i=0;

while(val[i]!=10)

{

dat\_len++;

i++;

}

strcpy(dat,val);

strcpy(tmp,val);

printf("Dataword Received!\n");

read(client\_sockfd,val,sizeof(val));

i=0;

while(val[i]!=10)

{

div\_len++;

i++;

}

strcpy(div,val);

i=dat\_len;

dat\_len=dat\_len+div\_len-1;

while(i<dat\_len)

{

dat[i]='0';

i++;

}

dat[i]=10;

start=0;

end=div\_len-1;

while(end<dat\_len)

{

if(dat[start]=='1')

{

for(i=start,j=0;i<=end,j<div\_len;i++,j++)

{

if(dat[i]==div[j])

{

dat[i]='0';

}

else

{

dat[i]='1';

}

}

}

start++;

end++;

}

i=0;

end=div\_len-1;

while(end)

{

tmp[dat\_len-1-i]=dat[dat\_len-1-i];

end--;

i++;

}

tmp[dat\_len]=10;

printf("Codeword = %s",tmp);

write(client\_sockfd,tmp,sizeof(tmp));

return NULL;

}

int main()

{

int server\_sockfd,server\_len;

pthread\_t th[MAXCLIENT];

server\_sockfd=socket(AF\_INET,SOCK\_STREAM,0);

server\_address.sin\_family=AF\_INET;

server\_address.sin\_addr.s\_addr=inet\_addr("127.0.0.1");

server\_address.sin\_port=9734;

server\_len=sizeof(server\_address);

bind(server\_sockfd,(struct sockaddr \*)&server\_address,server\_len);

listen(server\_sockfd,MAXCLIENT);

while(1)

{

temp=0;

printf("Start..\n");

while(temp<MAXCLIENT)

{

int \*pserver=malloc(sizeof(int));

\*pserver=server\_sockfd;

pthread\_create(&th[temp],NULL,serve,(void \*)pserver);

temp++;

}

temp=0;

while(temp<MAXCLIENT)

{

printf("Waiting...\n");

pthread\_join(th[temp],NULL);

temp++;

}

}

return 0;

}

**Client:**

#include<stdio.h>

#include<string.h>

#include<stdlib.h>

#include<unistd.h>

#include<sys/types.h>

#include<sys/socket.h>

#include<netinet/in.h>

#include<arpa/inet.h>

#define MAXSIZE 15

int main()

{

char val[MAXSIZE];

int sockfd,result,len;

struct sockaddr\_in address;

sockfd=socket(AF\_INET,SOCK\_STREAM,0);

address.sin\_family=AF\_INET;

address.sin\_addr.s\_addr=inet\_addr("127.0.0.1");

address.sin\_port=9734;

len=sizeof(address);

result=connect(sockfd,(struct sockaddr \*)&address,len);

if(result==-1)

{

perror("Client Error!");

exit(1);

}

printf("Enter the dataword: ");

fgets(val,MAXSIZE,stdin);

write(sockfd,val,sizeof(val));

printf("Enter the divisor: ");

fgets(val,MAXSIZE,stdin);

write(sockfd,val,sizeof(val));

read(sockfd,val,sizeof(val));

printf("Codeword from Server = %s",val);

close(sockfd);

return 0;

}







