

CSE344  
SYSTEM  
PROGRAMING  
FINAL

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# CLIENT.C

```
int socket1 = 0;
    struct sockaddr_in serverAddr;

    if((socket1 = socket(AF_INET, SOCK_STREAM, 0)) < 0)
    {
        perror("Socket Creation Error");
        exit(EXIT_FAILURE);
    }
    serverAddr.sin_family = AF_INET;
    serverAddr.sin_port = htons(info->portN);
    if(inet_pton(AF_INET, info->ipN, &serverAddr.sin_addr)<=0)
    {
        perror("Invalid Address");
        exit(EXIT_FAILURE);
    }
    if(connect(socket1, (struct sockaddr *)&serverAddr, sizeof(serverAddr)) < 0)
    {
        perror("connection failed");
        exit(EXIT_FAILURE);
    }
    pthread_mutex_lock(&mutex1);
++arrived;
if(arrived < info->reqsize)
{
    pthread_cond_wait(&cond,&mutex1);
}
else
{
    pthread_cond_broadcast(&cond);
}

pthread_mutex_unlock(&mutex1);

fprintf(stdout,"I am requesting \"%s\"\n",info->strRequest);

send(socket1, info->strRequest, strlen(info->strRequest), 0);
```

```
Servant 2975 listening at port 33012
Client-Thread-0: Thread-0 has been created
Client-Thread-1: Thread-1 has been created
Client-Thread-2: Thread-2 has been created
Client-Thread-3: Thread-3 has been created
Client-Thread-4: Thread-4 has been created
Client-Thread-5: Thread-5 has been created
Client-Thread-6: Thread-6 has been created
Client-Thread-7: Thread-7 has been created
Client-Thread-8: Thread-8 has been created
Client-Thread-9: Thread-9 has been created
I am requesting "transactionCount IMALATHANE 04-06-2004 11-11-2011 ISPARTA"
I am requesting "transactionCount TARLA 01-01-2073 30-12-2074 ADANA "
I am requesting "transactionCount MERA 03-02-2018 09-11-2050 "
Terminating 0
```

The requests were read and sent to the server via socket.

## ***Server.c***

**common socket made by both the client and the client:**

```
addrlen = sizeof(serverAddr);
    sck=accept(socket1, (struct sockaddr *)&serverAddr,
(socklen_t*)&addrlen);
    if(sck ==-1)
    {
        perror("Accept");
        exit(EXIT_FAILURE);
    }
```

***client's writings fall under this condition:***

```
if(reqLenStr[0]=='t')
{
    fprintf(stdout,"Request arrived “%s”\n",reqLenStr);
    char tran[100];
    char place[100];
    char BeginDate[100];
    char EndDate[100];
    char city[100];
    char space=' ';
    enqueue(&queue1,reqLenStr);
    pthread_cond_signal(&cond);
    sscanf(reqLenStr,"%s%c%s%c%s%c%s%c%s",
tran,&space,place,&space,BeginDate,&space,EndDate,&space,city);
}
```

***servants's writings fall under this condition:***

```
char space=' ';
char mode;
char between[100];
char between1[100];
char servantPort[100];
char ip[50];
sscanf(reqLenStr,"%c%c%s%c%s%c%s%c%s",
&mode,&space,ip,&space,servantPort,&space,between,&space,between1);
```

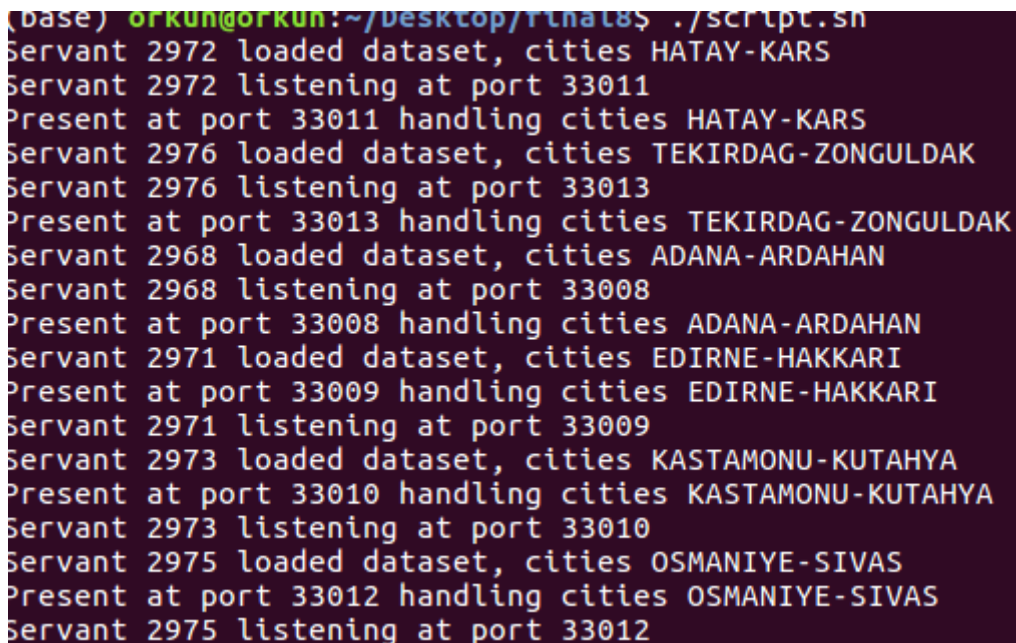
```

        fprintf(stdout, "Present at port %s handling cities %s-%s\n", servantPort, between, between1);
        struct sockaddr_in serverAddr;
        socket2[num]=0;
        if((socket2[num] = socket(AF_INET, SOCK_STREAM, 0)) <
0)
        {
            perror("Socket Creation Error");
            exit(EXIT_FAILURE);
        }
        serverAddr.sin_family = AF_INET;
        serverAddr.sin_port = htons(atoi(servantPort));
        if(inet_pton(AF_INET, ip, &serverAddr.sin_addr)<=0)
        {
            perror("Invalid Adress");
            exit(EXIT_FAILURE);
        }
        if(connect(socket2[num], (struct sockaddr *)&serverAddr,
sizeof(serverAddr)) < 0)
        {
            perror("connection failed");
            exit(EXIT_FAILURE);
        }
    }
}

```

## ***Servant.c***

It waits for a request to come to itself with the port number sent to the server.



```

(base) orkun@orkun:~/Desktop/rnat8$ ./script.sh
Servant 2972 loaded dataset, cities HATAY-KARS
Servant 2972 listening at port 33011
Present at port 33011 handling cities HATAY-KARS
Servant 2976 loaded dataset, cities TEKIRDAG-ZONGULDAK
Servant 2976 listening at port 33013
Present at port 33013 handling cities TEKIRDAG-ZONGULDAK
Servant 2968 loaded dataset, cities ADANA-ARDAHAN
Servant 2968 listening at port 33008
Present at port 33008 handling cities ADANA-ARDAHAN
Servant 2971 loaded dataset, cities EDIRNE-HAKKARI
Present at port 33009 handling cities EDIRNE-HAKKARI
Servant 2971 listening at port 33009
Servant 2973 loaded dataset, cities KASTAMONU-KUTAHYA
Present at port 33010 handling cities KASTAMONU-KUTAHYA
Servant 2973 listening at port 33010
Servant 2975 loaded dataset, cities OSMANIYE-SIVAS
Present at port 33012 handling cities OSMANIYE-SIVAS
Servant 2975 listening at port 33012

```