

Sample TCP Client

```
#include <stdio.h>
#include <stdlib.h>
#include <ctype.h>
#include <sys/time.h>
#include <unistd.h>
#include <fcntl.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <arpa/inet.h>
#include <sys/types.h>

#define SERV_ADDR "192.168.0.2"
#define SERV_PORT 7777
{
    struct sockaddr_in serv_sock_addr;
    int socket_fd;

    bzero((char *) &serv_sock_addr, sizeof(serv_sock_addr));
    serv_sock_addr.sin_family = AF_INET;
    serv_sock_addr.sin_addr.s_addr = inet_addr(SERV_ADDR);
    serv_sock_addr.sin_port = htons(SERV_PORT);

    if ((socket_fd = socket(AF_INET, SOCK_STREAM, 0)) < 0)
        exit(1);

    if (connect(socket_fd, (struct sockaddr *) &serv_sock_addr,
        sizeof(serv_sock_addr)) < 0) exit(1);

    read(socket_fd,...);
    process(...);
    write(socket_fd,...);
    close(socket_fd);
}
```

Sample TCP Server

```
#include <stdio.h>
#include <stdlib.h>
#include <ctype.h>
#include <sys/time.h>
#include <unistd.h>
#include <fcntl.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <arpa/inet.h>
#include <sys/types.h>

#define SERV_ADDR "192.168.0.2"
#define SERV_PORT 7777
{
    struct sockaddr_in serv_sock_addr, client_sock_addr;
    int cli_addrln, socket_fd, socket_fd2;

    if ((socket_fd = socket(AF_INET, SOCK_STREAM, 0)) < 0)
        exit(1);

    bzero((char *) &serv_sock_addr, sizeof(serv_sock_addr));
    serv_sock_addr.sin_family = AF_INET;
    serv_sock_addr.sin_addr.s_addr = htonl(INADDR_ANY);
    serv_sock_addr.sin_port = htons((short)port_number);

    if (bind(socket_fd, (struct sockaddr *) &serv_sock_addr,
            sizeof(serv_sock_addr)) < 0) exit(1);

    listen(socket_fd, 5);
    cli_addrln = sizeof(client_sock_addr);
    while (1)
    {
        socket_fd2 = accept(socket_fd, (struct sockaddr *)
            &client_sock_addr, &cli_addrln);
        if (socket_fd2 < 0) exit(1);
        read(socket_fd2, ...);
        process(...);
        write(socket_fd2 ...);
        close(socket_fd2);
    }
    close(socket_fd);
}
```

Sample UDP Client/Server

```
#include <stdio.h>
#include <stdlib.h>
#include <ctype.h>
#include <sys/time.h>
#include <unistd.h>
#include <fcntl.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <arpa/inet.h>
#include <sys/types.h>

#define SERV_ADDR "192.168.0.2"
#define SERV_PORT 7777
{
    struct sockaddr_in conn_addr;
    int socket_fd;

    if ((socket_fd = socket(AF_INET, SOCK_DGRAM, 0)) < 0)
        exit(1);

    bzero((char *)&conn_addr, sizeof(struct sockaddr_in));
    conn_addr.sin_family = AF_INET;
    conn_addr.sin_addr.s_addr = htonl(INADDR_ANY);
    conn_addr.sin_port = htons(SERV_PORT);

    /* Note: bind is only for UDP server. It will hang on UDP
       client */
    if (bind(socket_fd, (struct sockaddr *)&conn_addr,
            sizeof(struct sockaddr_in)) < 0) exit(1);

    recvfrom(socket_fd,...);
    process(...);
    sendto(socket_fd,...);
    close(socket_fd);
}
```