

Programming Assignment 4 (5 pts, Due on 5pm April 18 Thursday)

In this programming assignment, you need to implement the movie query sever described in Programming Assignment 1 using UDP sockets. If UDP is used, the client does not establish a connection with the server before communications. Instead, it just sends datagrams to the server using the **sendto** function. Similarly, the server does not need to accept a connection from a client. Instead, it just calls the **recvfrom** function, which blocks until the datagrams are received from a client. Refer to Figure 8.1 in the socket programming textbook for the architecture and interaction procedure of the UDP based server and client (shown below). The client and server programs must be revised to achieve the functionalities described in Programming Assignment 1.

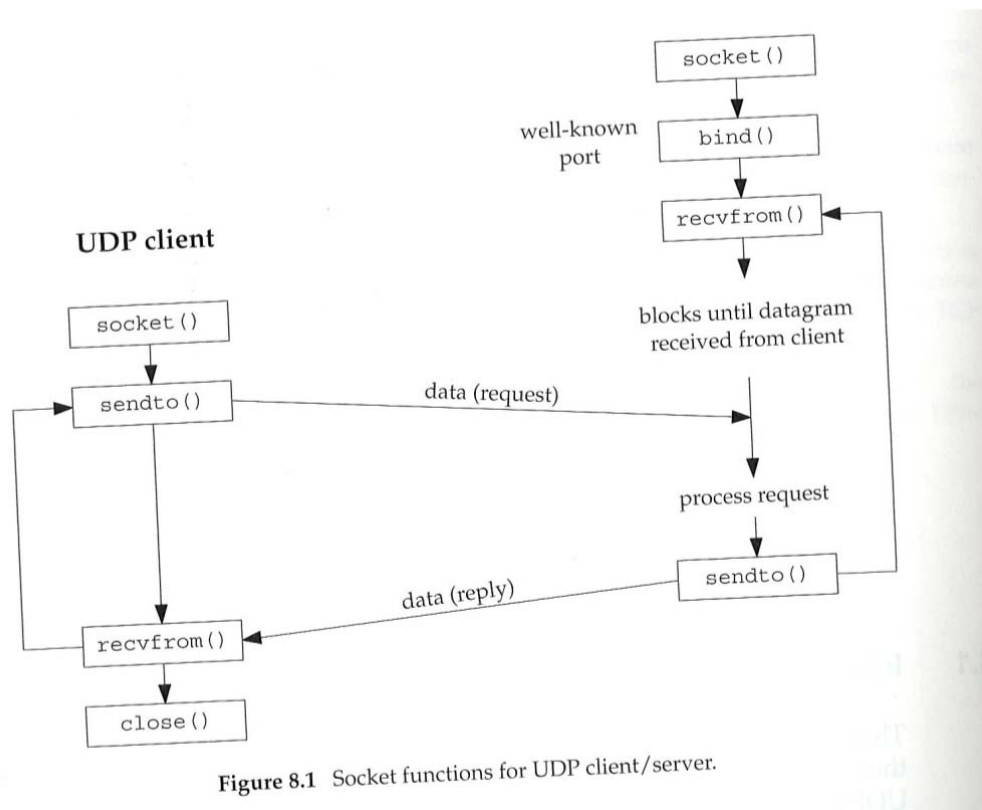


Figure 8.1 Socket functions for UDP client/server.

UDP socket [1]

Note that:

- 1) Test both your server and client programs in a single machine, and use IP address "127.0.0.1" (local host) as the server's IP address and port number "12345" for this service.
- 2) For the grading purpose, you MUST write your programs using C/C++ and put the source code for the client and server programs in files called "client3.c" and "server3.c" respectively. And, you MUST make sure that your programs work on the programming environment that TA described in the recitation.

- 3) You MUST submit the source code files as a single zip file (with the name of “YourLastName-PA4.zip”) to the blackboard by 5pm April 18 Thursday. Moreover, you need to bring a hard copy of your source code to me in the class on April 18. You may be asked to demo your programs by the TA.
- 4) You MUST write your own programs. You may reuse your own code for Programming Assignment 1. Copying codes from others or some online sources may result in serious consequences!!!

[1] W. Richard Stevens, Bill Fenner and Andrew M. Rudoff, Unix Network Programming, Vol. 1: The Sockets Networking API (3rd Edition), Addison-Wesley Professional, 2003, ISBN: 0131411551.