System Programming Lab

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Report 10

The commands *socket(), bind(), listen(), accept(),* and *connect()* are necessary in socket programming, specifically communication between sockets. The following report will briefly summarize these commands and their functions.

socket(): socket() creates an endpoint for communication. This function returns a file descriptor of that specific endpoint.. The lower the number, the more successful the call of the file is.

bind(): bind() is used to bind a name to a specific socket. Using socket(), a socket is created in a name space but has no address assigned to it. The bind() command assigns a specific address to the socket using the file descriptor.

listen(): listen() is used to listen for connections on a socket. Given a socket file descriptor, this command will set the file descriptor as a passive socket, ready to accept any incoming connection requests.

accept(): accept() is used to accept a connection on a socket. This system call is used with connection-based socket types. It extracts the connection request on the queue of pending connections for the listening socket. Once the request is extracted, it creates a new connected socket and returns a new file descriptor referring to the connected socket. This new socket will not be kept at a listening state.

connect(): connect() is used to initiate a connection on a socket. This system call connects a socket to the address, both given as a parameter. Zero is returned when connection or binding succeeds, -1 is returned otherwise.

As shown in the following commands, the consecutive use and synergy of these commands will truly be helpful in socket programming. From creating a socket all the way to connecting, these general commands are great basics as the beginning of socket programming.