Socket Programming

CS-370: Operating System

University of Nevada, Las Vegas

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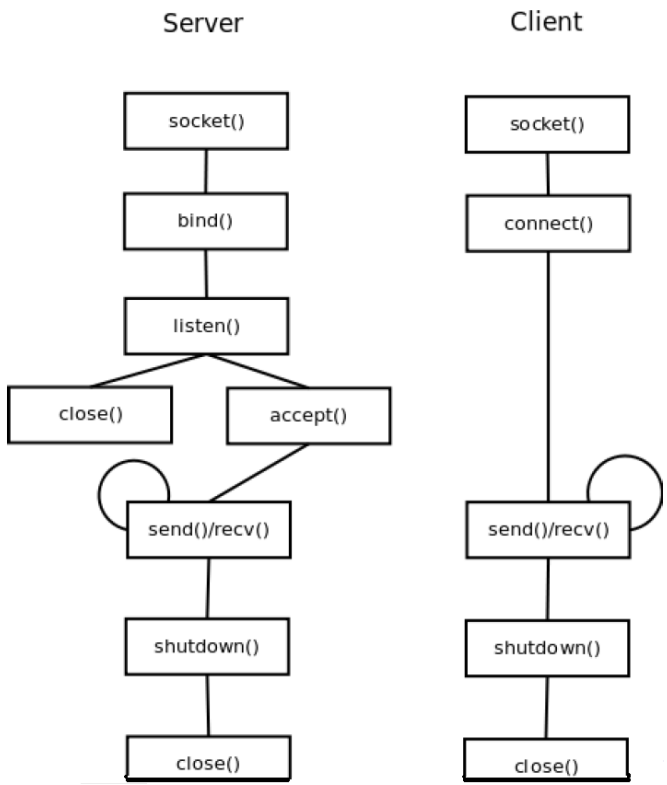
- Most communication on the Internet is done by sockets.
- Two types of sockets
  - UDP - Packets
  - TCP Connection Oriented

Unix Sockets

- They allow communication between processes running on the same UNIX system.
- Addressing for the sockets are done with a UNIX path.

Client-Server Connection



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  - Type: the type of the socket (UDP or TCP), we will be using TCP so use SOCK_STREAM
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- Return Value: socket descriptor on success and -1 on error

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- Parameters:
  - Sockfd: socket descriptor returned by socket()
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- Return Value: connected socket descriptor on success and -1 on failure

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  - Buf: pointer where to store the data
  - Len: size of data to receive
  - flags: options for the communication, we will use 0.
- Return Value: Number of bytes read on success and -1 on failure

Creating an Address

```
#include <sys/un.h>
struct sockaddr_un address;
address.sun_family = AF_UNIX;
strcpy(address.sun_path, "mySocket");
unsigned int addressLength = sizeof(address);
```