Name: _____

This worksheet is due on **Thursday October 13** at the beginning of **lecture**.

What are Unix Sockets?

What is the C language command to create a **TCP** socket in the internet domain?

What is the C language command to create a **UDP** socket in the internet domain?

What **four** functions may be used to send (two sending functions) and receive data (two receiving functions) over stream based sockets?

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Two questions on the listen function:

- What does the listen() function do?

- What does the second parameter to the listen() do and why would we set it to a value greater than one?

Regarding the bind function:

- What does the bind function do?

- What are the three pieces of information needed to bind (name) a socket?

- What are well known port numbers?

- What is the purpose of providing a port number of zero (0) to the bind function?

- What are the port numbers for the following services:
  - Web traffic (http):
  - FTP Control:
  - Telnet:
  - Domain Name Server (DNS):
  - Internet Message Access Protocol (IMAP):

- What does the select() function do?

- Using the man command what are the **include** files needed in order to use the socket() function call:

- Using the man command what are the **libraries** that must be linked to in order to use the listen() function call:

- Why do you use sendto and recvfrom function calls when using UDP (versus the send(…)/recv(..) calls)?

- Why does transmitting using STREAM sockets require creating multiple sockets while DATAGRAM sockets only require one socket?

There are a number of function calls that must be made in order to utilize sockets for communications. List the functions in the order which are needed to setup and execute communications client-server connection using Stream Sockets (make sure it is clear which socket you are working with on the server):

Functions on the Sender: Functions on the Receiver:

_____   _____

_____   _____

_____   _____

_____   _____

_____   _____

_____   _____

_____   _____

List the functions in the order which are needed to setup and execute communications using DATAGRAM Sockets:

Functions on the Sender: Functions on the Receiver:

_____   _____

_____   _____

_____   _____

_____   _____

_____   _____

_____   _____