Assignment 3 Notes
Server - No Threads

1. socket()
2. bind()
3. listen()
4. accept()
5. recv()
6. Processing
7. send()
8. close()
Assignment 2

- The code presented processes one connection at a time
- You want to assign a connection to a thread
- How
  - Create an array where connections are placed
  - Threads get a new connection for processing when done with the previous connection
  - Please keep in mind that the array is shared
Main process: You handle connection by putting...
WithThreads

Get Connection

recv()

Processing

send()

close()

Server Thread

wait for connection request from next client
Thread Pools

- A collection of threads that are created once (e.g. when server starts)
- There is no need to create a new thread for every client's request
- Instead an existing thread is used
- Thread pools improve resource utilization
Thread pools

- What if all threads are busy processing a request when a client request arrives?

- Put this into an array where each element represents the connection to be used for the client request.
  - The accept command requires a socket to be created for the client request.
Array of Connections

- This is shared between the process (i.e. main process) and the threads in the thread pool.

- When a thread is done it checks the array to see if there is a client request.

- Need synchronization
  - Do not use sleep or any form of busy waiting.