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Computer Networks: Project 2 – Command and Control Server with Multi-agent System: Design Specs.

* An array of structs called ‘memberList’ to keep track of the active members of the server. Each entry in the array is composed of the ‘member’ struct, which has the variables agent, time, and a pointer to the next member in the list. ‘memberCounter’, a redundancy check, keeps track of the total number of active members within the memberList array.
* Two file pointers were used in order to transfer a log file that keeps track of all the server interactions with an agent (receiving a request and sending a reply) as well file that lists the entries of the active member list
* A bool variable ‘isMember’ is used to determine if an agent who sends a request is an active member. This variable is used to determine which conditional statement needs to be executed per request
* cAgentIP – is a char array that holds the current agent’s IP address
* cServerIP – is a char array that holds the server’s IP address
* cAction – is a char array that holds the agent’s request
* cResponse – is a char array that holds the server’s response to the agent’s request, depending if the agent is an active member or not
* cPort – is a char array that holds the server’s port for connecting to agent
* buffer – is a char array that holds input to and from the server/agent
* A while(true) loop is executed with the accept(). Once an agent is accepted, the request is compared to the conditional statements to allow the correct response of the server for the agent.