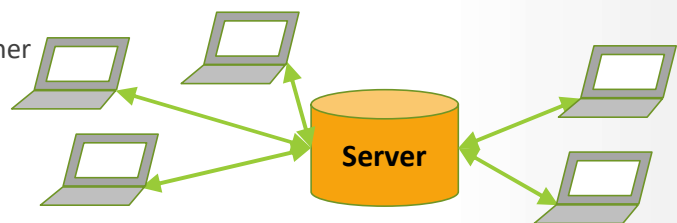# CS221
C and Systems
Programming

More Mancala?!?

Why should your Mancala program play against slow, silly humans when it could play **other computers**?

Use <u>networking</u> to exchange Mancala moves

Central server:
- Picks pairs of computers to play each other
- Verifies moves are legal, keeps score
- Displays everyone's scores on GUI

Server

I wrote the central server

mancala3.c

Takes two command-line arguments:
- IP address of server
- IP port for Mancala

Repeatedly:
- Reads a command from server
- Interprets command, decides what to do
- Writes a reply, if this command requires it
- Optionally prints out information and collects statistics for you to use to improve your game

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The "Protocol"

LOGIN
- You reply with your GitHubID:AvatarName

NEWGAME
- No reply

PLAY
- You reply with which of your squares you choose to move

OPP:#
- Which square did your opponent move?
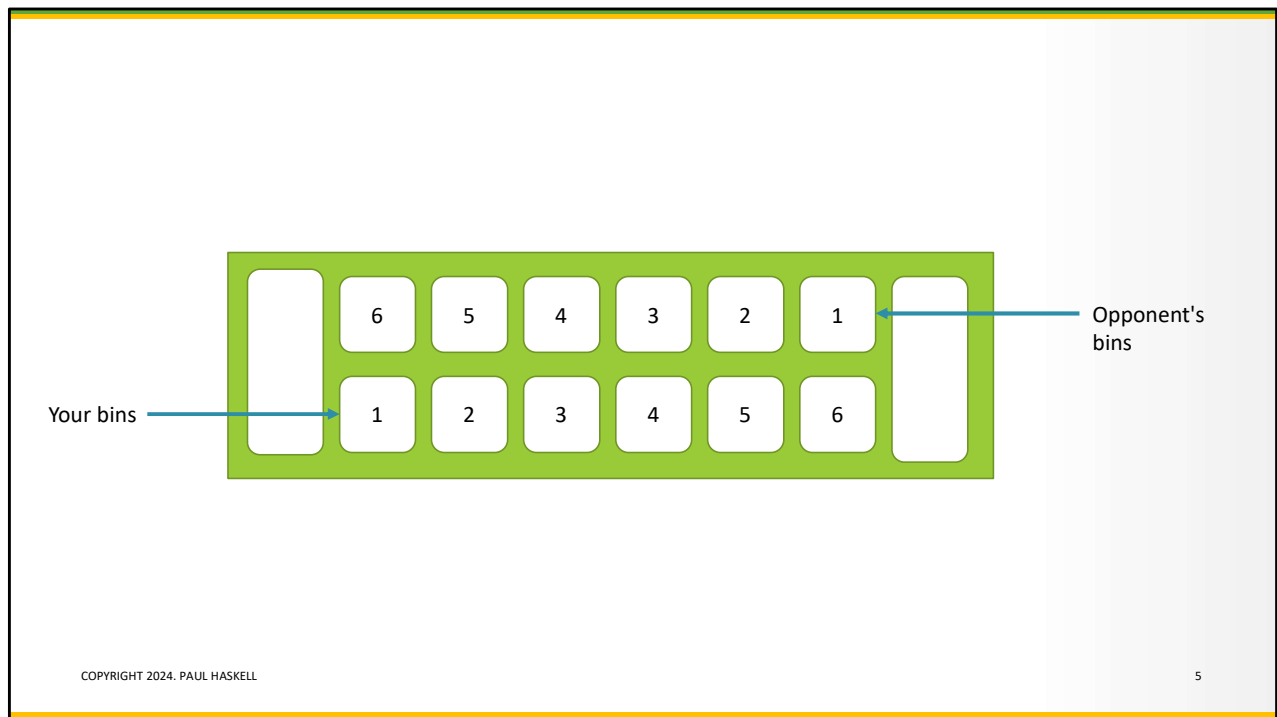- No reply

DONE:message for you goes here
- No reply

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Protocol is "rules for behavior". Message cmds are in all caps.
DONE message tells you something your program did wrong; you should fix it

This shows #s you send responding to "play" and #s you get in "opp" command

Command format

Byte values
- First is length of remainder of message as a raw numerical value, not ASCII
- Remaining are ASCII values
- Your responses must start with length of remainder also!

6	'l'	'o'	'g'	'i'	'n'	\0

Length of msg is 7
"Length field" is 6 (doesn't count itself)
\0 at end
When you write replies to server, please write \0 at end. And include \0 in length!

Strategy

Test on your own—how?

Will have chances to test with official server in class & office hours, but must test on your own.

Brainstorm!
- make your own server? Have 2 vers of your pgm play each other? Have DIFFERENT vers of your pgm play each other? Ok to play vs classmates? What is a good strategy?

Tournament!

I'd like to do a tournament in which everyone can play everyone else

Just for fun and prizes, not part of grading

Evening of last day of class? Maybe 45 minutes
- RSVP so I can plan snacks