Modern Technology's Effect on One of The World's Oldest Games

Mancala | Mancala and Matlab Combined | Matlab

Nate Barone, Sacred Heart University, Computer Engineering, ENGR 200

Rules of Mancala

https://endlessgames.com/wp-content/uploads/Mancala_Instructions.pdf

Origin of Mancala

The actual origin of mancala is not completely clear. The oldest found evidence of a game resembling mancala was from the 4th century, AD, located in Abu Sha'ar, Egypt. This was the location of a late Roman legionary fortress overlooking the Red Sea coast. A little later, between 6th and 7th century AD, a fragment of a pottery board, which resembled mancala, was found in Aksumite Ethiopia in current day Eritrea. Some historians believe that due to the game needing no special tools or rules, it could date back to the start of civilization itself; however, there has been no found examples of mancala, or any of its similar variants, older than 1300 years. There have been some pieces of graffiti in Egypt, the Kurna temple precisely, which resemble mancala but there is no way to date such pieces.
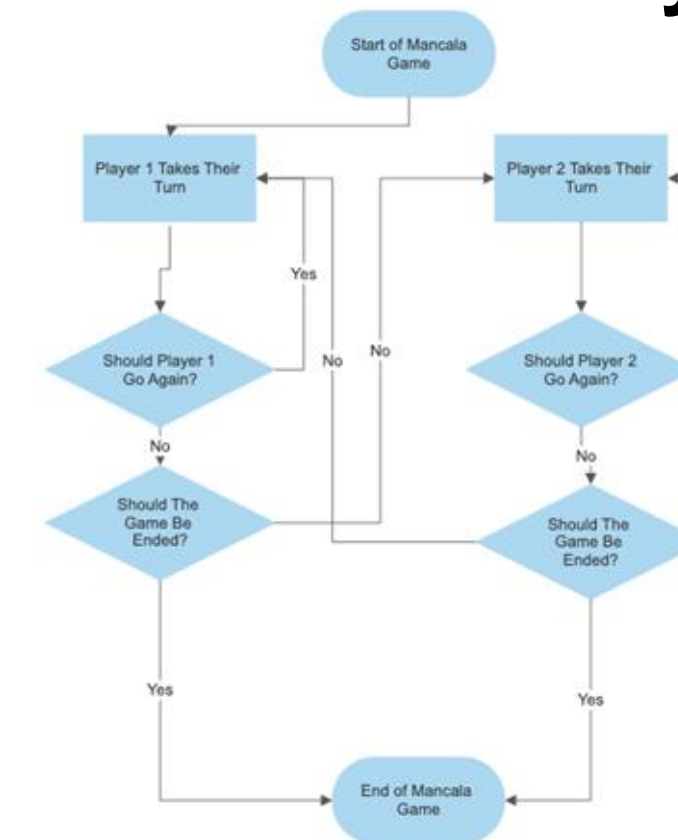
Mancala Board Examples

https://www.kid-at-art.com/htdoc/members/lesson65.html
https://www.reddit.com/r/woodworking/comments/a1nfds/walnut_and_epoxy_mancala_board_i_finished_for_a/
https://www.pinterest.com/pin/373869206551072557/

Video Explanation of My Matlab Code
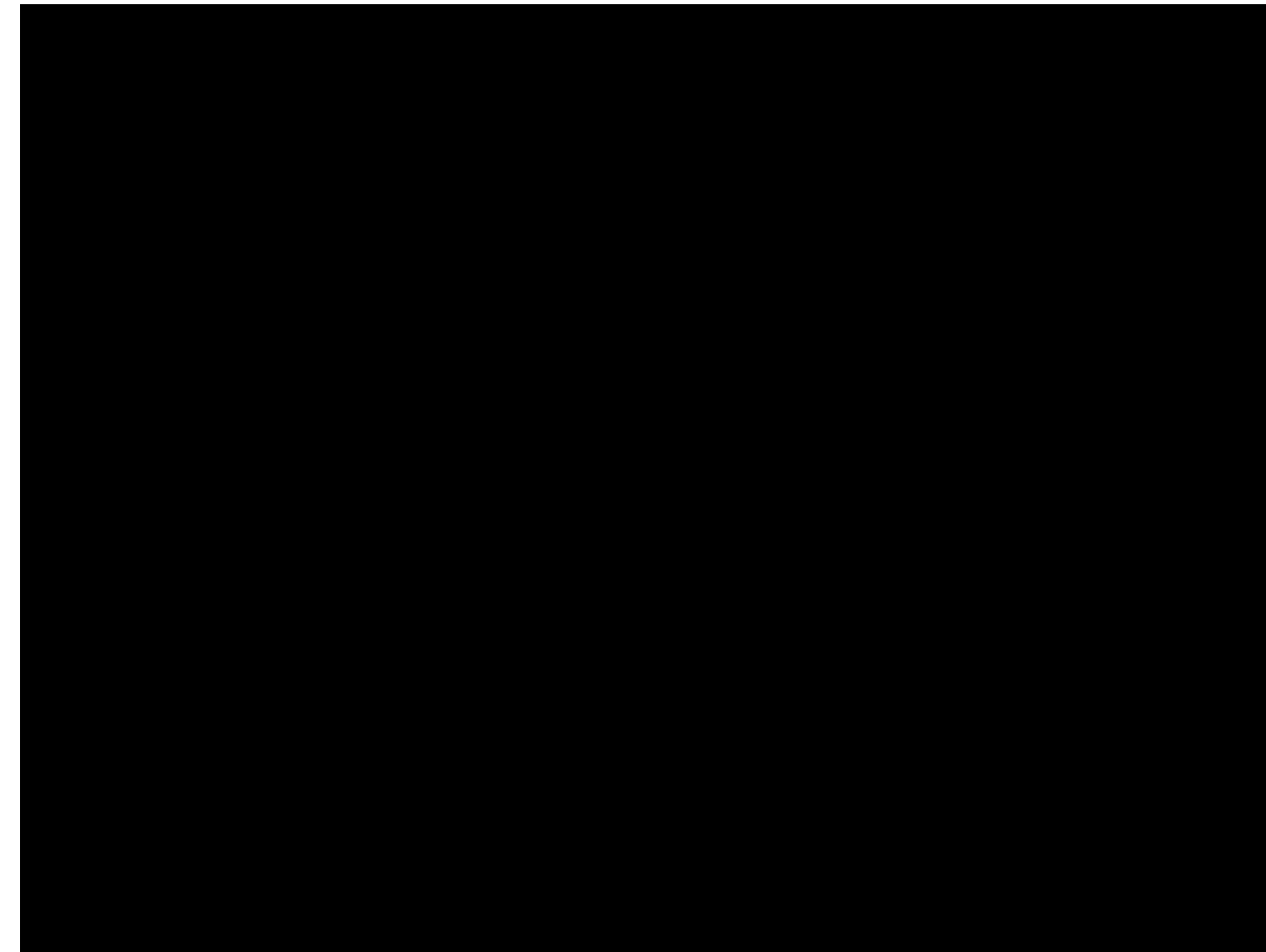

Flow Chart of My Code

Current Limitations of My Matlab Code

1. I did not set up the board as seen in real life; this is due to the fact that both players must sit on the same side of the board.
2. I did not code the capture rule; this was more of a personal choice than a limitation on the coding side.
3. I did not allow the left-over pebbles to be added to either of the player's Mancala hole.
4. I did not allow the players to loop the board more than once.
   a. Point 3 and 4 were not added in due to limitation of time.

Definition of Matlab

MATLAB (*Matrix Laboratory*) is a proprietary programming language developed by MathWorks. It focuses in on being able to complete complex mathematical and engineering scenarios. On top of this it is able to create user interfaces to allow for simple representation of said completed complex scenarios and data.

Examples of Matlab Graphing
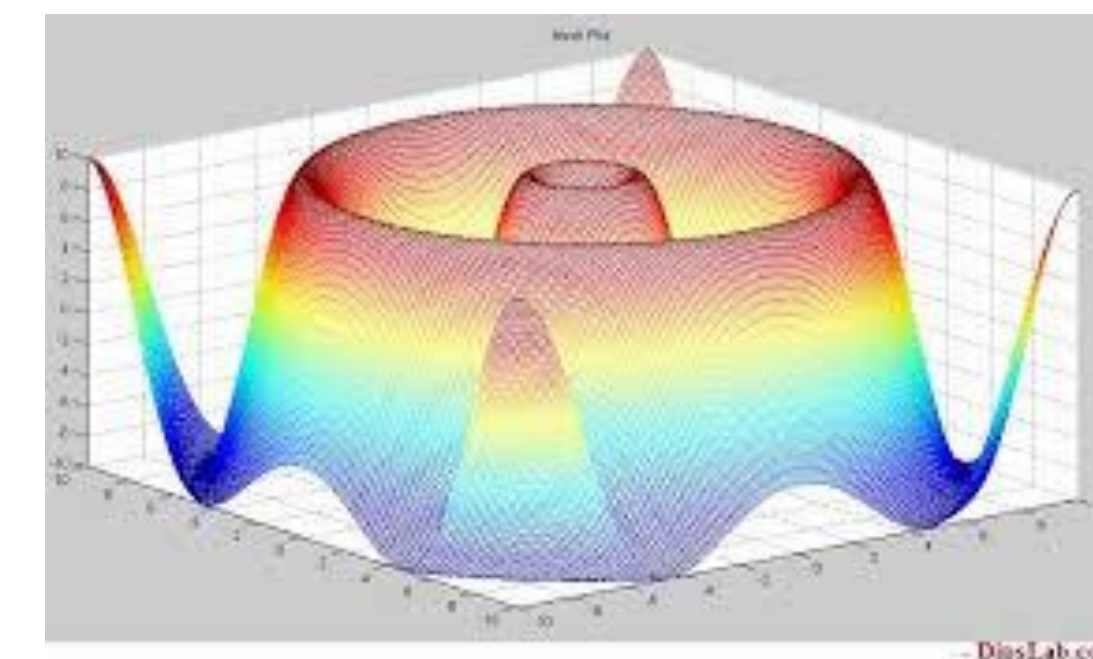
The above graph (from https://dipslab.com/matlab-3d-plot-examples/) shows the mesh plot of the equation T = sqrt(x^2 + y^2).
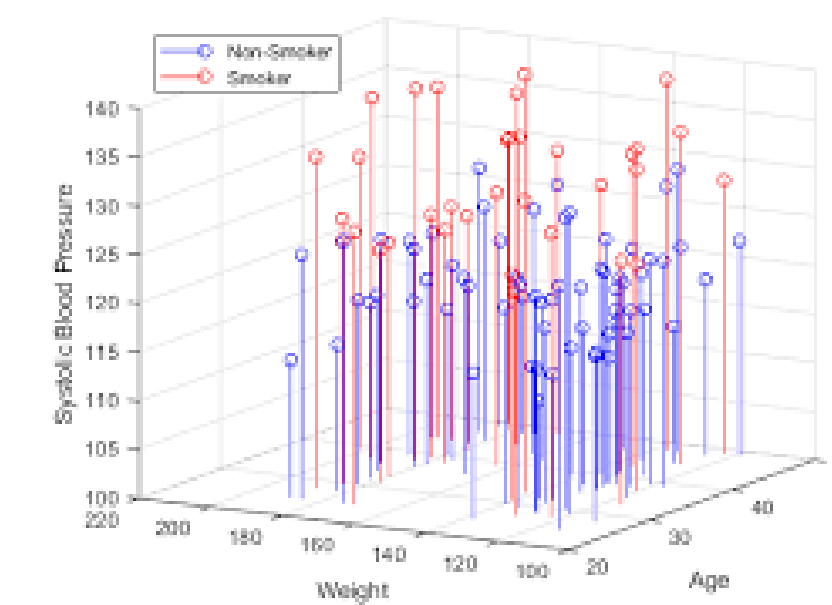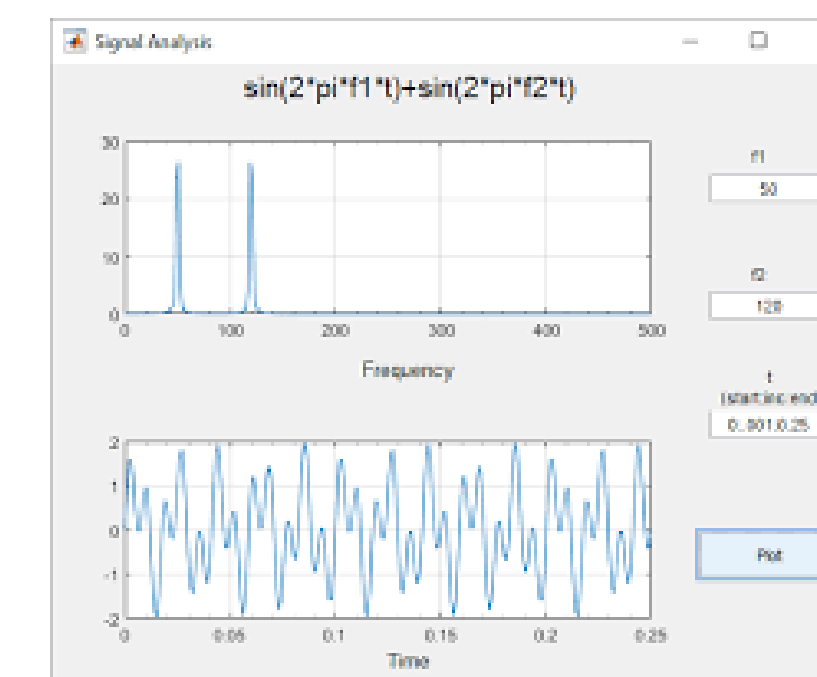
The above graph (from https://www.mathworks.com/help/matlab/visualize/visualizing-four-dimensional-data.html) is visualizing 4 dimensional data with one discrete variable.

The above graph (from https://www.mathworks.com/help/matlab/creating_guis/gui-that-accepts-parameters-and-generates-plots.html) is analyzing the signal that is the sum of two sin waves in both its frequency and time domain.