

# LION MANCALA



Dedicated to my wonderful partner, Donna Bridge

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Developed using the C programming language, cc65, emacs, bash, neslib, Mesen, yychar, famitracker, NES Assets Workshop, paint.net, Swift Publisher 5, Windows 10/11, Ubuntu Linux, Mac OS 13, Coke Zero and MOD Pizza

Want to reward me for making this game? Please send \$1,000,000 or perhaps a nice email to [tabytha@shallowenigma.com](mailto:tabytha@shallowenigma.com)

Proudly Designed, Developed and Produced in Portland, Oregon, USA.

Special Thanks to Donna Bridge, Lorelai Walker for their comments and suggestions. Thanks to nesdoug for his helpful blog on NES programming with cc65.

## Origin and History

Mancala is very old! It has been played throughout Africa and Asia for thousands of years. There are many, many variants.

We have evidence mancala was played in ancient Egypt, and so perhaps the game spread from there to many parts of Africa and the Middle East, and ultimately to Eastern Europe and all of Asia. Enslaved Africans brought the game to the Americas during the trans-Atlantic slave trade.

Today mancala is played and enjoyed all over the world.

This Game Pak implements the most popular modern variant, kalah. It was developed in 1940 in the United States and is apparently based upon the congkak variant of Southeast Asia.

# How to Play

## A. Players

Mancala is a 2-player game.

## B. Board and pieces



The mancala board is long and has 14 pits, which can hold counters called seeds.

There are two kinds of pits - houses and stores.

Each player sits along one of the long sides of the board. The six smaller pits in front of them are their houses, and the larger pit on their right side is their store.

The game pieces are called seeds, and are actual seeds, stones, or other counters.

At the beginning of the game, there are 4 seeds in each of the 12 houses, with the stores remaining empty, as shown above.

### **C. Goal of the Game**

The goal of the game is to place as many seeds as you can into your store.

### **D. Sequence of Play**

One player is chosen to go first, and the players take turns until the game is over.

### **E. How to Move on Your Turn**

The basic move is called “sowing”. Choose one of your houses that has seeds in them and pick them up, leaving that house empty. Now, “sow” them by placing one seed from your hand in the pit that is counterclockwise to it, and into the one after that, and so on, till you have sown all your seeds into the consecutive, counterclockwise pits. Be sure to include your store, BUT NOT

YOUR OPPONENT'S. If you have enough seeds, it is possible to go all the way around the board, and then some!

### Special Rules:

1. Extra Turn - if the last seed you sow is sown into your store, you get to go again!
2. Capturing - If you sow the last seed in your hand into one of your empty houses, and your opponent's house directly across from it has seeds as well, you have captured those seeds! Place them and the last seed you sowed into your store. Now it is your opponent's turn.

## F. The Game Ends

If it is your turn and you can't move because all your houses are empty, the game ends. Your opponent places any seeds remaining in their houses into their store, and whoever has the most seeds in their store wins the game! As there are an even number of seeds (48), it is possible to have a tie game (24-24).

The player who goes first has a decided advantage. Indeed, a good player who plays first can likely win, regardless of the skill of their opponent! So, a good way to enjoy playing mancala is for the weaker player to go first.

Another approach is to always play two games, taking turns going first, and to total the final number of seeds in your store from both games to determine the overall winner.

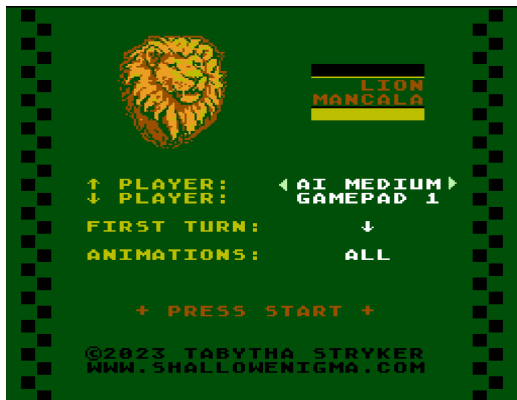




photo by Staffan Martikainen



# Game Pak Options and Gameplay

## A. The Selection/Start Screen



This is where you set up the game you wish to play or observe.

Use your gamepad controller to select and change options. Use Select (or D-pad up and down) to switch between option lines, and D-pad right and left to change the option for that line.

Player  will play from the top of the screen, and Player  from the bottom.

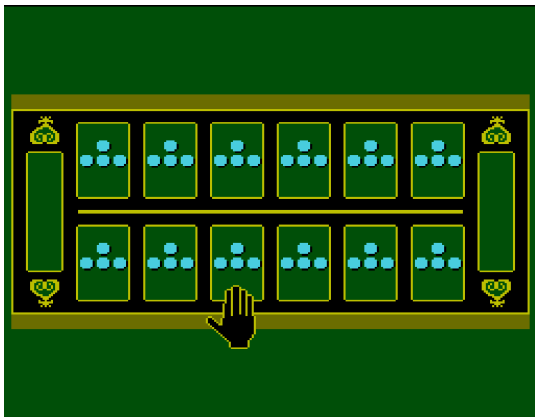
1. Selection of Players - for both players you can select how they are controlled. Options are GAMEPAD 1, GAMEPAD 2, AI NOVICE, AI EASY, AI MEDIUM, AI HARD, and AI BEST

2. First Turn - select which player gets the first turn

3. Animations - while the game is being played, the NES animates all moves, which can be fun to watch but takes some time. If you are familiar with the game and would prefer moves to be resolved quickly, you can reduce animations here.

When you have options set as you like, press Start to begin the game!

## B. The Gameplay Screen



This is where the game is played. The board is displayed, along with the seeds in each pit. Note that in the stores, groups of ten seeds are displayed as a special seed with a dark circle on them.

1. Selection of Move - when it is your turn to move, use your controller to move the hand icon back and forth between your houses. When the hand is over the house you wish to select for your move, press the A button. The sowing and any possible captures are animated for you by the Game Pak. If you earned an extra turn, you will be allowed to go again, otherwise play passes to the other player.

2. Ending the Game - when the game is over and you wish to return to the Selection/Start screen, push A on your controller.

## The Challenge Ladder

When playing against the NES, the following is recommended - take the first move, challenging each AI opponent from easy to best as you gain skill and defeat each. Congratulations! You are now a good mancala player, and ready for the greater challenge.

Play them all again, but with the NES allowed to go first. Keep playing the NES players from easy on up, until you can't progress any further. At that point, see how many seeds you can capture even when you lose, and consider that to be your score, and ranking.

## Credits

Mancala and its Early Variants: the ancient peoples of Africa and Asia

Kalah Variant of Mancala: William Julius Champion, Jr., apparently based upon the congkak variant of Southeast Asia

Software Design and Programming; Graphics, Sound Effects and Music; Manual, Box, Label Design and Writing: Tabytha Stryker

Lion Graphic: Bing AI, modified and adapted by Tabytha Stryker

Start/Selection Screen Sound Effects: from NESLIB code examples

NESLIB Programming Library: Shiru (shiru@mail.ru)

Shallow Enigma