HP-85

GAMES PAC

HEWLETT PACKARD

HP-85

Games Pac

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Introduction

The 19 programs of the Games Pac are designed primarily to provide fun. Included are card games, board games, dynamic action games, word games, and pattern generation programs. The major characteristics of each of the programs is shown below.

If a program normally uses the graphics display mode and is in the alpha mode, you can return to the graphics display by pressing the (GRAPH) key. During an input in graphics mode, (BACK SPACE) is the only editing key.

We hope that you will enjoy the programs in this pac.

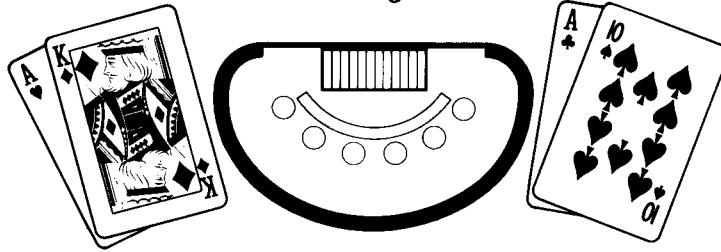## PROGRAM CHARACTERISTICS

	SOLITAIRE	2 PLAYERS	2 OR MORE PLAYERS	EASY TO WIN	HARD TO WIN	VARIABLE DIFFICULTY	CHANCE	SOME SKILL	AUTO PLAYING MODE	NOT A GAME
1 BLACKJACK	●		●	●			●			
2 SLOT MACHINE	●			●			●			
3 POKER SOLITAIRE	●			●				●		
4 REVERSI	●	●		●				●	●	
5 GOMOKU	●			●				●		
6 CRIBBAGE	●			●				●		
7 WARI	●	●		●				●		
8 SEA SKIRMISH	●	●		●				●	●	
9 BLOCKADE	●	●		●				●	●	
10 RACE TRACK	●		●	●				●		
11 LANDER	●			●				●		
12 RACE	●			●				●		
13 HANGMAN	●	●						●		
14 HUNT THE WUMPUS	●			●			●	●		
15 KING	●				●		●	●		
16 NIM	●					●		●		
17 MAZE GENERATOR	●									●
18 GAME OF LIFE	●									●
19 BIRTHDAY PLOT	●									●

Contents

Blackjack

This game of 21 (Blackjack) is designed to be played by as many as 6 players. You may play with up to 4 decks of cards. Bets are made before each deal. The table limit is $500. The cards will then be dealt and each player, in turn, plays his hand.

The first response should be: 'D', indicating that the player is doubling down; 'S', indicating that he is standing; 'H', indicating that he wants another card (a hit) or; '/', indicating that he wants to split cards. After the initial response, all responses should be 'S' or 'H'. You can only double down if the card total is 10 or 11. Only the first two cards can be split. Blackjacks will be detected automatically and winnings will be credited. Insurance is offered when the dealer's up card is an ace. You may purchase insurance against his having blackjack. Insurance pays you 2 to 1 if he has blackjack. Insurance can be up to one-half of your bet.

All winnings and losses will be retained as whole dollar amounts. The cards will be shuffled automatically when necessary and the first card in the shuffled deck will be burned. The remaining number of cards are graphically presented at the top of the display. The last card will not be dealt.

While this program lacks the human element of the casinos, it should nonetheless improve your playing strategies. It's not your money, so enjoy playing the game.

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "BLACKJ" (END LINE)

2. To start the program:
   a. Press: (RUN)

3. When DO YOU WANT INSTRUCTIONS? is displayed:

   a. Enter: Y (END LINE), if you want instructions.
   b. Go to step 4.
   OR:
   a. Enter: N (END LINE)
   b. Go to step 5.

4. When DISPLAY/PRINT INSTRUCTIONS: D/P? is displayed:
   a. Enter: D (END LINE), if you want the instructions displayed.

OR:

a. Enter: P $\left(\substack{\text{END} \\ \text{LINE}}\right)$, if you want the instructions printed.

Note: You must press $\left(\text{CONT}\right)$ when you are ready to proceed if the instructions are displayed.

5. When NUMBER OF DECKS? is displayed:

a. Enter: The number of decks $\left(\substack{\text{END} \\ \text{LINE}}\right)$, 1 to 4.

6. When NUMBER OF PLAYERS? is displayed:

a. Enter: The number of players $\left(\substack{\text{END} \\ \text{LINE}}\right)$, 1 to 6.

7. When BET FOR PLAYER # __ ? is displayed:

a. Enter: The bet for the specified player $\left(\substack{\text{END} \\ \text{LINE}}\right)$ (0 to 500).

OR:

a. Enter: 0 $\left(\substack{\text{END} \\ \text{LINE}}\right)$, if the specified player is sitting out this hand.

8. Repeat step 7 for all players.

Note: If all players enter 0 as their bet, the program will stop.

9. If ANY INSURANCE? is displayed:

a. Enter: Y $\left(\substack{\text{END} \\ \text{LINE}}\right)$, if any player wants to purchase insurance.

b. Go to step 10.

OR:

a. Enter: N $\left(\substack{\text{END} \\ \text{LINE}}\right)$.

b. Go to step 12.

10. If insurance is to be purchased and INSURANCE FOR PLAYER # __ ? is displayed:

a. Enter: The amount of insurance desired $\left(\substack{\text{END} \\ \text{LINE}}\right)$, up to one half of the player's bet.

11. Repeat step 10 for each player.

12. If the dealer has blackjack, go to step 7.

13. When PLAYER __ ? is displayed:

a. Enter: D $\left(\substack{\text{END} \\ \text{LINE}}\right)$, to double down.

b. Go to step 20.

OR:

a. Enter: S $\left(\substack{\text{END} \\ \text{LINE}}\right)$, to stand.

b. Go to step 20.

OR:

a. Enter: H $\left(\substack{\text{END} \\ \text{LINE}}\right)$, to hit (draw another card).

b. Go to step 14.

OR:

a. Enter: / $\left(\substack{\text{END} \\ \text{LINE}}\right)$, to split a pair.

b. Go to step 16.

14. If RECEIVED A __ HIT? is displayed:

a. Enter: S $\left(\substack{\text{END} \\ \text{LINE}}\right)$, to stand.

b. Go to step 20.

OR:

a. Enter: H $\left(\substack{\text{END} \\ \text{LINE}}\right)$, to hit (draw another card).

b. Go to step 14.

15. If . . . BUSTED is displayed, go to step 20.

16. If aces were split, go to step 20 after the second cards are dealt.

17. When HAND __ ? is displayed:

a. Enter: S $\left(\substack{\text{END} \\ \text{LINE}}\right)$, to stand.

b. Go to step 20.

OR:

a. Enter: H $\left(\substack{\text{END} \\ \text{LINE}}\right)$, to hit (draw another card).

18. If RECEIVED A __ HIT? is displayed:

a. Enter: S $\left(\substack{\text{END} \\ \text{LINE}}\right)$, to stand.

b. Go to step 20.

OR:

a. Enter: H $\left(\substack{\text{END} \\ \text{LINE}}\right)$, to hit (draw another card).
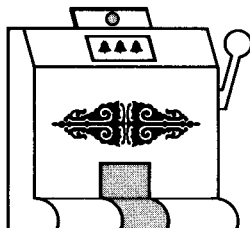
b. Go to step 18.

19. If . . . BUSTED is displayed or you entered S to stand, repeat steps 17 and 18 for the second hand.

20. Repeat steps 13 through 19 for each player.

21. Go to step 7.

Slot Machine

This electronic slot machine deducts a dime from your bank account with each "spin" and pays up to ten dollars for a jackpot. The winning combinations, odds, and payoffs are shown below.

Combination	Odds	Payoff
	780/8000	.20
	420/8000	.50
	42/8000	1.00
	21/8000	1.00
	20/8000	1.00
	20/8000	1.00
	32/8000	1.00
	4/8000	1.00

BAR BAR BAR	1/8000	10.00
(cherry symbols)	1/8000	10.00

The above payoff odds are obtained by using KEY #4. Use of KEY #3 will result in odds of ⅛ for getting a jackpot of 3 bars. If you are trying to simulate the payoffs of a real slot machine, KEY #4 should be used.

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "SLOT" (END LINE)

2. To start the program:
   a. Press: (RUN)

3. When EXPLANATION : Y/N? is displayed:
   a. Enter: Y (END LINE), if you want an explanation of the keys and the odds.
   b. Go to step 4.

   OR:
   a. Enter: N (END LINE).
   b. Go to step 5.

4. When DISP/PRINT EXPLANATION : D/P? is displayed:
   a. Enter: D (END LINE), if you want the explanation displayed.

   OR:
   a. Enter: P (END LINE), if you want the explanation printed.

   Note: You must press (CONT) when you are ready to proceed to the next page of information if the explanation is being displayed.

5. When PULL is blinking:
   a. Press: KEY #4 to pull the arm of the slot machine using standard odds.

   OR:
   a. Press: KEY #3 to pull the arm of the slot machine with weighted odds for bars.

   Note: Your current winnings (or losses) are shown after POT. The dimes used to play are taken into account.

Poker Solitaire
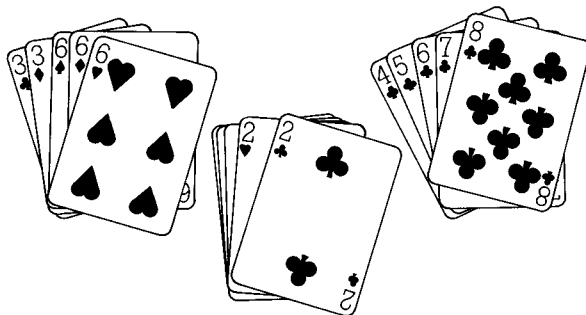
In Poker Solitaire, you and the computer play a solitaire game using the same cards on separate boards. A single deck of cards is shuffled and the top 25 cards are played one by one onto a 5 × 5 matrix. Each row and column of the matrix is to be scored as a separate poker hand using the following scoring system.

Hand	Point Value	Example
STRAIGHT FLUSH	30	10♥ Q♥ J♥ 9♥ 8♥
4 OF A KIND	16	2♣ 3♦ 2♦ 2♥ 2♠
STRAIGHT	12	5♦ 6♥ 4♣ 3♥ 7♠
FULL HOUSE	10	3♣ 2♦ 3♦ 2♣ 3♥
3 OF A KIND	6	8♥ 8♦ 9♥ 8♠ K♣
FLUSH	5	6♥ K♥ 2♥ 5♥ 9♥
TWO PAIR	3	6♦ 6♣ 2♥ 5♦ 5♣
ONE PAIR	1	2♦ 3♣ 2♥ 10♥ 6♣

The hands are not ranked as in Poker, but in accordance with the relative difficulty of attainment in this game. You should play with this scoring system in mind.

Aces are always high cards. The cards in a hand do not have to be in order. After playing this game a few times, you should be able to do better than the computer over half the time.

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: `LOAD "POKER"` `(END LINE)`
2. To start the program:
   a. Press `(RUN)`
3. When `DO YOU WANT INSTRUCTIONS: Y/N?` is displayed:
   a. Enter: Y `(END LINE)`, if you want the instructions.
   b. Go to step 4.
   OR:
   a. Enter: N `(END LINE)`.
   b. Go to step 5.
4. When `PRINT INSTRUCTIONS: Y/N?` is displayed:
   a. Enter: Y `(END LINE)`, if the instructions are to be printed.
   OR:
   a. Enter: N `(END LINE)`, if the instructions are to be displayed.

Note: You must press `(CONT)` when you are ready to proceed if the instructions are on the display.

5. When `ENTER YOUR NAME: 6 CHAR. MAX. ?` is displayed:
   a. Enter: Your name `(END LINE)` or an abbreviated form of it in 6 characters or less.
6. When `ENTER R,C FOR __ ?` is displayed:
   a. Enter: The row and column number separated by a comma `(END LINE)` for the displayed card.
7. Repeat step 6 for the first 24 cards.
8. After the scoring is completed and `DO YOU WANT TO PLAY AGAIN?` is displayed:
   a. Enter: Y `(END LINE)`, to play another game.
   b. Go to step 5.
   OR:
   a. Enter: N `(END LINE)`, to stop.

Reversi

Reversi is a game developed in England in the 1880's. It was quite popular in England, but is relatively unknown today. Various forms of the game have been developed since then, but this computer version is based on the original rules of the game.

The rules for Reversi are quite simple, but the strategies involved in the play of the game can be quite complex. The game is designed for play between two people, one person against the machine, or machine versus machine. After specifying the type of game, you must specify the type of opening, either parallel or diagonal.

Openings
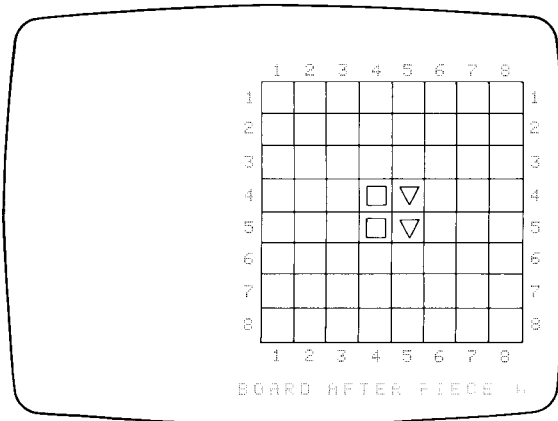
Parallel
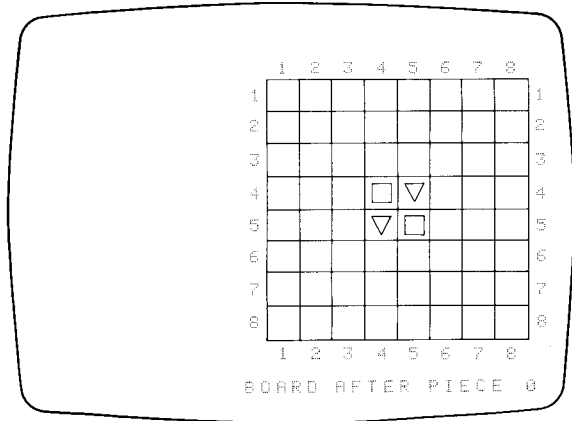
Diagonal

If you are playing against the machine you must also specify whether you want to go first or second. After specifying the initial game, moves are made using the following rules.

1. A move must be made so that one or more opponents are between the played piece and another one of your pieces with no empty cells in between.

2. The enemy pieces between your two pieces are captured, but instead of being removed from the board, they are reversed to your pieces. Pieces remain on the board for the entire game, but may be reversed several times.

3. If the played piece simultaneously flanks more than one enemy chain, the pieces in all chains will be reversed.

4. Pieces are captured only by the placement of an enemy piece. Chains which become flanked at both ends as a result of other reasons are not captured.

5. If a player cannot move, he loses his turn and continues to lose his turn until a legal move becomes possible.

6. The game ends when all 64 squares are filled or when neither player can move. A player cannot move either because he has no pieces or as in Rule 1. The winner is the player with the most pieces on the board at the end.

The following example should prove helpful if the playing of the game is still confusing.
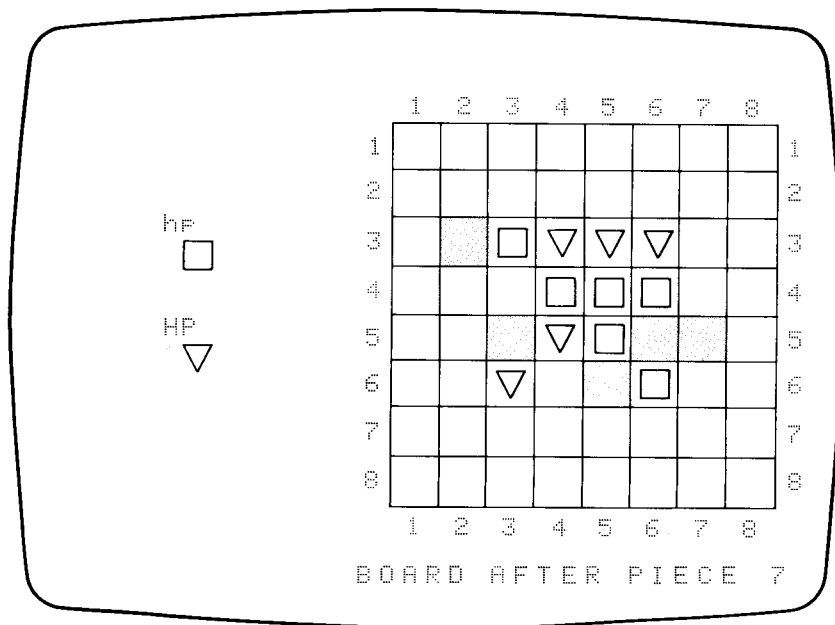
At this point in the game, ▽ (HP) can move to (3,2), (5,3), (5,6), (5,7), and (6,5) which are the shaded locations.
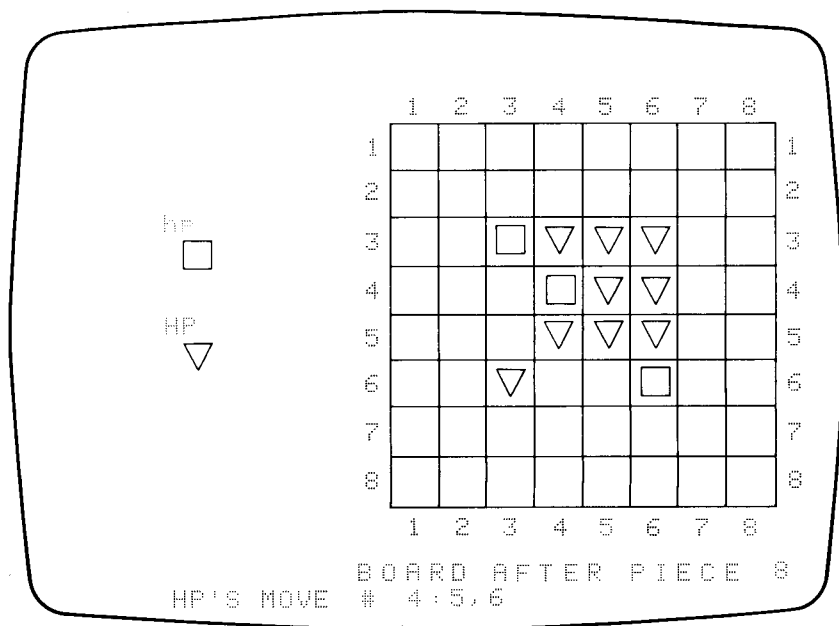
When ▽ (HP) moved to (5,6), the □'s (hp) at (4,5), (4,6), and (5,5) were reversed to ▽'s.

For more help, you may watch the machine play against itself. This will demonstrate some of the strategies involved in the game and the dramatic reversals which occur during the game.

User Instructions

1. To load the program:
    a. Insert the Games Pac cartridge into the tape transport.
    b. Type: LOAD "REVERS" [END LINE]

2. To start the program:
    a. Press [RUN]

3. When DO YOU WANT RULES:Y/N? is displayed:
    a. Enter: Y [END LINE], if you want instructions.
    b. Go to step 4.
    OR:
    a. Enter: N [END LINE].
    b. Go to step 5.

4. When DISP OR PRINT RULES: D/P? is displayed:
    a. Enter: D [END LINE], if you want the rules displayed.
    OR:
    a. Enter: P [END LINE], if you want the rules printed.
    Note: You must press [CONT] when you are ready to proceed if the rules are displayed.

5. When WHICH GAME DO YOU WANT:M/P? is displayed:
    a. Enter: M [END LINE], if you want to play against the machine or have the machine play against itself.

b. Go to step 6.

OR:

a. Enter: P $\boxed{\text{END LINE}}$, if you want to play a two person game.

b. Go to step 13.

6. When WHAT IS YOUR NAME:8 CHARS. ? is displayed:

a. Enter: Your name $\boxed{\text{END LINE}}$ in less than or equal to 8 characters.

OR:

a. Enter: hp $\boxed{\text{END LINE}}$ if you want the machine to play against itself.

7. When PARALLEL OR DIAGONAL OPENING:P/D? is displayed:

a. Enter: P $\boxed{\text{END LINE}}$, to specify a parallel opening.

OR:

a. Enter: D $\boxed{\text{END LINE}}$, to specify a diagonal opening.

8. If you are playing against the machine and DO YOU WANT TO GO FIRST? is displayed:

a. Enter: Y $\boxed{\text{END LINE}}$, if you want to go first.

OR:

a. Enter: N $\boxed{\text{END LINE}}$, if you want to go second.

9. If the machine is playing against itself, watch the moves and when the game is over, go to step 12.

10. When MOVE #__ , __ ? is displayed:

a. Enter: The row and column numbers separated by a comma $\boxed{\text{END LINE}}$.

OR:

a. Enter: 0,0 $\boxed{\text{END LINE}}$, if you see no move.

11. Repeat step 10 until the game is over.

12. When PLAY AGAIN? is displayed:

a. Enter: Y $\boxed{\text{END LINE}}$, if you want to play again.

b. Go to step 4.

OR:

a. Enter: N $\boxed{\text{END LINE}}$, if you want to stop.

b. The program will stop.

13. When FIRST PLAYER'S NAME:8 CHARS. ? is displayed:

a. Enter: The name of the first player $\boxed{\text{END LINE}}$ in 8 characters or less.

14. When SECOND PLAYER'S NAME:8 CHARS. ? is displayed:

a. Enter: The name of the second player $\boxed{\text{END LINE}}$ in 8 characters or less.

15. When PARALLEL OR DIAGONAL OPENING:P/D? is displayed:

a. Enter: P $\boxed{\text{END LINE}}$, to specify a parallel opening.

OR:

a. Enter: D $\boxed{\text{END LINE}}$, to specify a diagonal opening.

16. When MOVE #__ , __ ? is displayed:

a. Enter: The row and column numbers separated by a comma $\boxed{\text{END LINE}}$.

OR:

a. Enter: 0,0 $\boxed{\text{END LINE}}$, if the player sees no move.

17. Repeat step 16 for the second player.

18. Repeat steps 16 and 17 until the game is over.

19. Go to step 12.

Gomoku

YOU
□

HP
▽

CURRENT BOARD
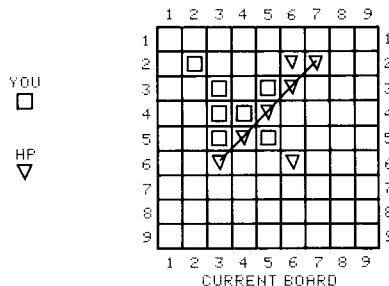
Gomoku is a very old, yet very simple Japanese game played on a 9 by 9 board. The object is to occupy five adjacent squares in a straight line anywhere on the board. The line may be horizontal, vertical, or diagonal.

The squares are referred to by the row number and column number (rows are horizontal, columns are vertical). You enter a move by typing ROW#, COL#. Thus, to move to row 4, column 3, you would enter 4,3 (END LINE). We'll take turns playing until one of us wins, or neither of us can move.

Always wait for the prompt YOUR MOVE before entering your move. The winning sequence of squares will be shown on the display by a line drawn from the first to the fifth point. Now, let's go . . . you move first or second!

User Instructions

1. To load the program:
    a. Insert the Games Pac cartridge into the tape transport.
    b. Type: LOAD "GOMOKU" (END LINE)
2. To start the program:
    a. Press (RUN)
3. When DO YOU WANT INSTRUCTIONS:Y/N? is displayed:
    a. Enter: Y (END LINE), if you want instructions.
    b. Go to step 4.
    OR:
    a. Enter: N (END LINE).
    b. Go to step 5.
4. When PRINT INSTRUCTIONS: Y/N? is displayed:
    a. Enter: Y (END LINE), to have the instructions printed.

OR:
a. Enter: N (END LINE), to have the instructions displayed.

Note: You must press (CONT) when you are ready to proceed if the instructions are displayed and after the last page is output.

5. When DO YOU WANT TO GO FIRST:Y/N? is displayed:
    a. Enter: Y (END LINE), if you want to go first.
    OR:
    a. Enter: N (END LINE) to go second.

6. When YOUR MOVE:R,C? is displayed:
    a. Enter: The row number and column number of the square separated by a comma (END LINE).

7. Repeat step 6 until the game is over.

   Note: Do not enter your move until prompted to do so in step 6. If you do stop program execution, press (CONT) to proceed.

8. When `Play another game (Y/N)?` is displayed:

a. Enter: Y (END LINE), to play another game.

b. Go to step 3.

OR:

a. Enter: N (END LINE) to stop.

b. The program will stop.

Cribbage
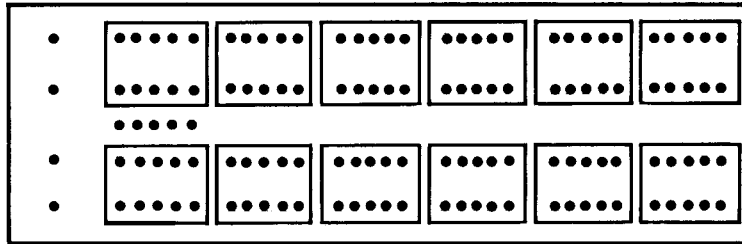
Cribbage came to America with the colonists from England. This version of the game pits you against the computer. The characteristic cribbage board for scoring is used on the graphics screen.

The rules for playing the game follow:

1. The object of the game is to peg (score) 121 points first.

2. You and the computer draw cards to determine who deals first. Lower card deals first. If the cards are of equal rank, both players draw again.

3. The cards are reshuffled and then each player receives six cards.

4. Two cards are discarded from each hand to form the crib. The crib is an extra hand which belongs to the dealer and is scored after the play of the hands.

5. The starter. After the crib is laid away, the top card of the remaining pack is turned up. This card is the *starter* and is used as the fifth card of the hands during *showing*. If the starter is a jack, the dealer pegs (scores) 2 points.

6. The play: The non dealer begins play by playing any card in his hand. Face cards count as ten and aces are one. Play continues until both players cannot play without carrying the total over thirty-one. If a player cannot play, he says ''GO''. The remaining player must play cards until he cannot play without going over thirty-one. For making exactly thirty-one the player pegs 2. If a player makes less than thirty-one, he pegs 1. During play the following combinations may be scored.

   Fifteen: Making the count equal fifteen pegs 2.

   Pairs: Peg 2 for playing a card of the same rank as the card previously played. Peg 6 for playing the third card of the same rank and 12 for playing the fourth card of the same rank. Rank is used in pairing and not counting value, so a jack and king do not count as a pair.

   Runs: Playing a card after two more cards are played, which forms a sequence (in any order) scores 1 for each card, e.g., 4, 5, 3 counts as three points for the player who played the 3.

Showing: After the eight cards are played, the hands are shown (counted and scored). The hands are shown in the following order: the nondealer, the dealer, and then the crib. The starter is used as the fifth card of each hand. Scoring combinations are as follows:

Fifteen: Each combination of two or more cards scored 2.

Pair: Each pair of cards scored 2 as in playing.

Runs: Each combination of three or more cards in sequence scores one for each card in the sequence.

Score four points for four cards in a hand (except crib) of the same suit. Score five if the starter is the same suit. To score for a flush in the crib, the starter must be the same suit.

His nobs: Score one if a hand holds the jack of the same suit as the starter.

The computer will declare ''Muggins!'' and score the difference between the maximum score and your total if your claimed point total is less than the maximum score for a hand.

Scoring an example hand may clarify the scoring:

Combination	Cards Used	Score
Fifteen	9♦ 6♦	2
Fifteen	6♦ 4♣ 5♠	2
Fifteen	6♦ 4♥ 5♠	2
Run	6♦ 5♠ 4♣	3
Run	6♦ 5♠ 4♥	3
Pair	4♣ 4♥	2
TOTAL		14

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "CRIB" (END LINE)

2. When the program has been loaded:
   a. Press: (RUN)

3. When DRAW FOR DEAL? is displayed:
   a. Enter: The desired card number (END LINE).

4. If the card ranks are the same and DRAW AGAIN? is displayed:
   a. Go to step 3 and draw again.

5. When YOUR DISCARDS? is displayed:
   a. Enter: Discard #1, Discard #2 (END LINE) to specify the cards from 1 to 6 to be placed in the crib.

6. When YOUR PLAY? is displayed:
   a. Enter: Card # (END LINE).
   OR:
   a. Enter: GO (END LINE).
   Note: If either you or the machine obtain 121 points the program will display I WIN or YOU WIN and stop.

7. Repeat step 6 until all cards are played.

8. When HOW MANY POINTS? is displayed:
   a. Enter: The number of points (END LINE) in your hand.

9. If it was your deal, repeat step 8 for the crib.

10. When the scoring is complete and PRESS CONT — WHEN READY is displayed:
    a. Press: (CONT) to continue to the next hand.
    b. Go to step 5.

Notes

Wari
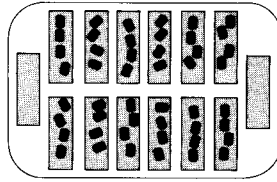
Wari* is a board game which has been played for at least several centuries in various forms throughout Africa. The game is played on a board containing (generally) twelve small pits or bins, and two large pits. Forty-eight beads, seeds, or other counters are moved and captured according to certain rules.

The Wari board is shown here set up to begin a game.

Wari Board at start of game
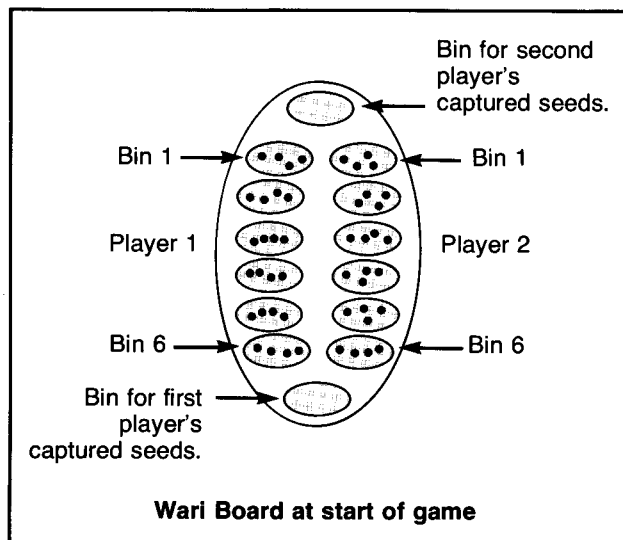
Each player in turn removes all the counters from one bin on his side and distributes them one-at-a-time into successive bins moving counterclockwise, skipping the two bins which are for storing captured counters. If the last counter drops into an opponent's hole containing one or two counters, the contents of that hole are captured and placed in the player's scoring pit. Counters in an unbroken sequence of two-and three-counter bins on the opponent's side clockwise from the captured bin are also captured. If a bin contains twelve counters or more, that bin is skipped when the counters from it are distributed. Moves which remove all of the opponent's counters are prohibited. It is possible to come to a situation where a few counters will circulate forever. In this case each player claims the counters on his side. The above rules are implemented in the computer program.

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* Also known as Man-Kalah, Awari, and many other names.

An elementary strategy is also implemented in this program so that a player may match his wits against the machine. The machine is able to make obvious, though not brilliant, captures. The machine does attempt to avoid having its counters captured but it does not look ahead more than two moves.

The program has been set up to play a match of two games with each player going first once. If each player wins a game, another match is automatically begun. Ties are counted as half a win.

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "WARI" (END LINE)
2. To start the program:
   a. Press (RUN)
3. When INSTRUCTIONS:Y/N? is displayed:
   a. Enter: Y (END LINE), if you want instructions.
   b. Go to step 4.
   OR:
   a. Enter: N (END LINE).
   b. Go to step 5.
4. When PRINT OR DISP
   INSTRUCTIONS:P/D? is displayed:
   a. Enter: P (END LINE), to print the instructions.
   OR:
   a. Enter: D (END LINE), to display the instructions.
   Note: You must press (CONT) when you are ready to proceed if the instructions are displayed.
5. When PLAY AGAINST THE
   COMPUTER:Y/N? is displayed:
   a. Enter: Y (END LINE), if you want to play against the computer.
   OR:
   a. Enter: N (END LINE).

6. When WHAT IS YOUR NAME:
   <=9 CHAR.? is displayed:
   a. Enter: Your name (END LINE) in 9 characters or less.
7. If you are playing against the machine go to step 9.
8. When YOUR OPPONENT'S NAME:
   <=9 CHAR.? is displayed:
   a. Enter: Your opponent's name (END LINE) in 9 characters or less.
9. When ___'S MOVE=? is displayed:
   a. Enter: The number of the bin to use (END LINE) (1 to 6).
   OR:
   a. Enter: −1 (END LINE), to divide the remaining beads by giving each player the beads which are on his side.
   b. Go to step 11.
10. Repeat step 9 until the game is over.
11. Repeat steps 9 and 10 until the match is over.
12. If the match was tied repeat steps 9, 10 and 11.
13. When PLAY AGAIN:Y/N? is displayed:
    a. Enter: Y (END LINE), to play again.
    b. Go to step 9.
    OR:
    a. Enter: N (END LINE), to stop.

References:

Zaslavski, Claudia, *Africa Counts—Number and Pattern in African Culture*, Prindle, Weber & Schmidt, Inc., Boston, 1973.
Rules for Man-Kalah!, Skor-Mor Corp., 1970.

Sea Skirmish
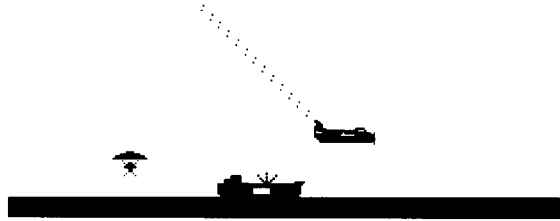
Sea Skirmish is a video game for the HP-85 with action for two players. This game has an auto running mode and an interactive mode for playing between two people or by yourself.

If you select the self-running mode, you can stop it and start the interactive mode by pressing KEY #6. The interactive game will automatically begin.

Special Function Key Actions:

KEY #	ACTION
1 & 5	Fire shot from plane
2	Change angle of plane's shot counter-clockwise
6	Change angle of plane's shot clockwise
4 & 8	Fire shot from ship
3	Change angle of ship's shot clockwise
7	Change angle of ship's shot counter-clockwise

To sink the ship, the plane's shot must end in the black rectangle on the ship.

To make the plane go down, the ship's shot must end in the mid ¾ of the plane. The larger area is due to the risk of the hit plane crashing into the ship and thus sinking the ship.

Note: THE SHIFTED KEYS WILL BE PRESSED IF EITHER PLAYER PRESSES THE SHIFT KEY!

Have fun playing!

User Instructions

1. To load the program:
    a. Insert the Games Pac cartridge into the tape transport.
    b. Type: LOAD "SKRMSH" (END LINE)

2. To start the program:
    a. Press (RUN)

3. When INSTRUCTIONS:Y/N? is displayed:

   a. Enter: Y (END LINE), if you want instructions.

   b. Go to step 4.

OR:

   a. Enter: N (END LINE).

   b. Go to step 5.

4. When DISP/PRINT INSTRUCTIONS:D/P? is displayed:

   a. Enter: D (END LINE), to display the instructions.

OR:

   a. Enter: P (END LINE), to print the instructions.

   Note: You must press (CONT) when you are ready to proceed if the instructions are displayed:

5. When AUTO PLAY:Y/N? is displayed:

   a. Enter: Y (END LINE), if the automatic mode is desired.

   b. Go to step 6.

OR:

   a. Enter: N (END LINE), if the interactive game is desired.

   b. Go to step 7.

6. The automatic mode will begin.

   a. Press: KEY #6, to stop the automatic mode and start the interactive game.

   b. Go to step 7.

OR:

   a. Press: All other special function keys to try your skills.

   b. Go to step 6.

7. The interactive game begins and the score is reset to zero. The following table explains the actions of the special function keys.

KEY #	ACTION
1 & 5	Fire shot from plane
2	Change angle of plane's shot counter-clockwise
6	Change angle of plane's shot clockwise
4 & 8	Fire shot from ship
3	Change angle of ship's shot clockwise
7	Change angle of ship's shot counter-clockwise

8. When a player reaches fifteen points and PLAY AGAIN:Y/N? is displayed:

   a. Enter: Y (END LINE), to play again.

   b. Go to step 7.

OR:

   a. Enter: N (END LINE) to stop.
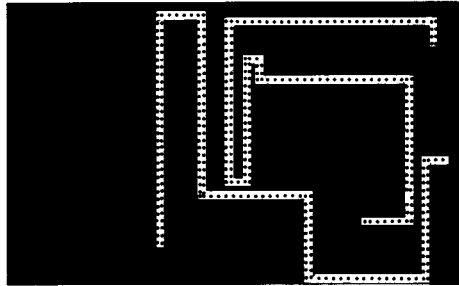
Blockade

Blockade is a video game for the viewer and the participant. The object of the game is to *not* run off the screen or into either your path or your opponent's path.

This game has an auto running mode and an interactive mode for playing between two people. If you select the self-running mode, you can stop it and start the interactive mode by pressing KEY # 1. The interactive game will automatically begin.

Special Function Key Actions:

KEY #	ACTION
1	Turn player A left
2	Turn player A right
5	Set A's speed to fast
6	Set A's speed to slow
3	Turn player B left
4	Turn player B right
7	Set B's speed fast
8	Set B's speed slow

Have fun playing!

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "BLOCK" (END LINE)

2. To start the program:
   a. Press (RUN)

3. When INSTRUCTIONS:Y/N? is displayed:
   a. Enter: Y (END LINE), if you want instructions.
   b. Go to step 4.
   OR:
   a. Enter: N (END LINE).
   b. Go to step 5.

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4. When `DISP/PRINT`
   `INSTRUCTIONS:D/P?` is displayed:
   a. Enter: D (END/LINE), to display the instructions.
   OR:
   a. Enter: P (END/LINE), to print the instructions.
   Note: You must press (CONT) when you are ready
   to proceed if the instructions are dis-
   played.

5. When `AUTO PLAY:Y/N?` is displayed:
   a. Enter: Y (END/LINE), if the automatic mode is
   desired.
   b. Go to step 6.
   OR:
   a. Enter: N (END/LINE), if the interactive game is
   desired.
   b. Go to step 7.

6. The automatic key mode will begin.
   a. Press: KEY #1, to stop the automatic mode
   and start the interactive game.
   b. Go to step 7.

7. The interactive game begins and the score is
   reset to zero. The following table explains the
   actions of the special function keys.

KEY #	ACTION
1	Turn player A left
2	Turn player A right
5	Set A's speed to fast
6	Set A's speed to slow
3	Turn player B left
4	Turn player B right
7	Set B's speed fast
8	Set B's speed slow

Race Track
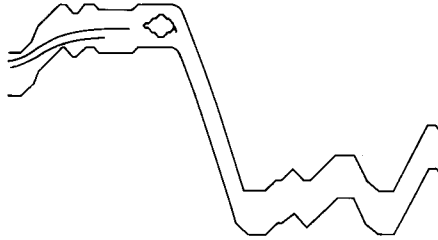
This race game is played on a randomly generated track which goes across the display from left to right. Up to four contestants can participate. Players take turns inputting acceleration changes and direction changes and the machine updates the position of each racer on the display. The position of the racer is checked to be on the track, finished, and in the oil slick. When a player initially gets close to a randomly positioned oil slick, the slick is plotted on the display. When a player stops in an oil slick, the machine will automatically take the player's turn using the players current velocity and direction. When a player leaves an oil slick, the velocity and direction are randomly changed for the next turn. When a player runs off the track, the velocity and direction are reset to starting conditions. A penalty of lost turns based on the velocity when a player left the course will be imposed. The program computes the maximum values based on a requested change and rejects moves which would cause spin-out or extreme angle changes. All moves are controlled by use of the special function keys as defined below:

Special Function Key Actions:

KEY #	ACTION
1	Maximum acceleration based on entered angle
2	Maximum deceleration based on entered angle
3	Coast at current angle and velocity
4	Input Δangle and Δacceleration
5	Maximum left turn based on entered Δacceleration
6	Maximum right turn based on entered Δacceleration
7	Print current velocity and angle and draw box around position
8	Recall move made by last player and take turn over

While this is not a dynamic game it does require skills involving judgment of distances and angles. Have fun playing!

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: `LOAD "RTRACK"` (END LINE)

2. To start the program:
   a. Press (RUN)

3. When `INSTRUCTIONS:Y/N?` is displayed:
   a. Enter: Y (END LINE), if you want instructions.
   b. Go to step 4.
   OR:
   a. Enter: N (END LINE).
   b. Go to step 5.

4. When `DISP/PRINT INSTRUCTIONS:D/P?` is displayed:
   a. Enter: D (END LINE), to display the instructions.
   OR:
   a. Enter: P (END LINE), to print the instructions.
   Note: You must press (CONT) when you are ready to proceed if the instructions are displayed.

5. When `FIRST PLAYER'S NAME?` is displayed:
   a. Enter: The first player's name (END LINE) in 10 characters or less.

6. When `SECOND PLAYER'S NAME?` is displayed:
   a. Enter: The second player's name (END LINE) in 10 characters or less.
   b. Go to step 7.
   OR:
   a. Enter: NONE (END LINE), if there are no more players.
   b. Go to step 9.

7. When `THIRD PLAYER'S NAME?` is displayed:
   a. Enter: The third player's name (END LINE) in 10 characters or less.
   b. Go to step 8.

OR:
   a. Enter: NONE (END LINE), if there are no more players.
   b. Go to step 9.

8. When `FOURTH PLAYER'S NAME?` is displayed:
   a. Enter: The fourth player's name (END LINE) in 10 characters or less.
   OR:
   a. Enter: NONE (END LINE), if there are no more players.

9. When `ENTER COURSE CODE?` is displayed:
   a. Enter: The course code (END LINE) (any random number).

10. When `___'S TURN` is displayed:
    a. Press: KEY #1 (`ACC`) to enter an angle and have the machine compute the maximum possible acceleration.
    b. Go to step 11.
    OR:
    a. Press: KEY #2 (`DEC`) to enter an angle and have the machine compute the maximum possible deceleration.
    b. Go to step 11.
    OR:
    a. Press: KEY #3 (`COAST`) to move in the same direction and at the same speed.
    b. Go to step 14.
    OR:
    a. Press: KEY #4 (`INPUT`) to enter both angle and acceleration changes.
    b. Go to step 13.
    OR:
    a. Press: KEY #5 (`LEFT`) to enter an acceleration change and have the machine compute the maximum possible left turn.
    b. Go to step 12.
    OR:

a. Press: KEY #6 (RIGHT) to enter an acceleration change and have the machine compute the maximum possible right turn.

b. Go to step 12.

OR:

a. Press: KEY #7 (PRT/POS) to print current velocity and angle and draw a box around the position.

b. Go to step 14.

OR:

a. Press: KEY #8 (WHOOPS) to recall the move made by the last player and take the turn over. (This should be done sparingly as it allows players to take chances and not pay the consequences of making an error in judgment).

b. Go to step 10 for the last player.

11. When ENTER ANGLE? is displayed:

a. Enter: The angle change from the current heading (END LINE).

b. Go to step 14.

Note: Positive angles are to the left and negative are to the right.

Note: If TOO MUCH TURN AT YOUR VELOCITY or VELOCITY TOO LOW - ENTER AGAIN is displayed, go to step 10 and enter an acceptable move.

12. When ENTER ACC/DEC? is displayed:

a. Enter: The acceleration change percentage (END LINE).

b. Go to step 14.

Note: Positive changes are accelerations and negative changes are decelerations.

Note: The maximum change is ±25%.

Note: If VEL. CHANGE > 25% or SPIN-OUT!-REDUCE VALUES is displayed, go to step 10.

13. When ENTER ΔANGLE & ΔACC? is displayed:

a. Enter: The angle and acceleration changes separated by a comma (END LINE).

Note: If VEL. CHANGE > 25%, SPIN-OUT!-REDUCE VALUES, or TURN TOO MUCH AT YOUR VELOCITY is displayed, go to step 10.

14. Repeat steps 10-13 for each player.

15. When all players have finished and PLAY AGAIN:Y/N? is displayed:

a. Enter: Y (END LINE), to play again.

b. Go to step 3.

OR:

a. Enter: N (END LINE), to stop.

Notes

Lander

This program simulates landing a rocketship on the planet of your choice. Any planet or major moon in our solar system is available, with gravitational force and fuel supply varying with each planet. Special function keys control the throttle for your ship as follows:

Special Function Key Actions

KEY #	ACTION
1	Shutdown
2	Hover (approximate thrust to maintain current velocity)
3	Half power
4	Full power
7	Decrease throttle by 1%
8	Increase throttle by 5%

The object is to land at less than 1 mile per hour which may prove to be quite difficult. Have fun and don't crash up too many landers.

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "LANDER" [END LINE]
2. To start the program:
   a. Press [RUN]
3. When ENTER NAME OF ASTRONAUT IN COMMAND OF THE LANDER? is displayed:
   a. Enter: Your name [END LINE].

4. When Who is your next of kin? is displayed:
   a. Enter: Your next of kin's name [END LINE].
5. When On what body would you like to attempt to land? is displayed:
   a. Enter: The name of the planet or major moon [END LINE].
   Note: You may try to land on any of the following bodies:

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MERCURY	GANYMEDE
VENUS	CALLISTO
EARTH	SATURN
MOON	TITAN
MARS	URANUS
JUPITER	NEPTUNE
IO	TRITON
EUROPA	PLUTO

6. When `Would you like instructions on how to land that thing?` is displayed:

    a. Enter: Y (END LINE), if you want instructions.

    OR:

    a. Enter: N (END LINE).

7. When `Then please tell us your earth weight in pounds?` is displayed:

    a. Enter: Your weight in pounds (END LINE).

8. When the keys are labelled, press any of the following keys to control the space craft's descent.

    a. Press: KEY #1 (`SHUTDOWN`), to shutdown the engine.

    b. Go to step 9.

OR:

a. Press: KEY #2 (`HOVER`), to specify the hover burn rate.

b. Go to step 9.

OR:

a. Press: KEY #3 (`HALF`), to specify half throttle.

b. Go to step 9.

OR:

a. Press: KEY #4 (`FULL`), to specify full throttle.

b. Go to step 9.

OR:

a. Press: KEY #7 (`-1%`), to decrease the current burn rate by 1%.

b. Go to step 9.

OR:

a. Press: KEY #8 (`+5%`), to increase the current burn rate by 5%.

b. Go to step 9.

9. Repeat step 8 until you either land or crash.

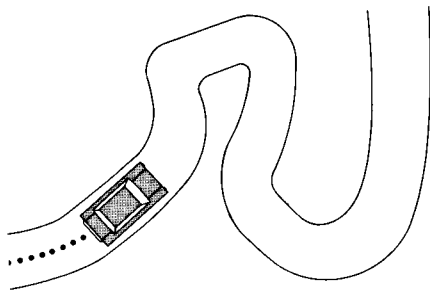10. When `Wanna continue?` is displayed:

    a. Enter: Y (END LINE), if you want to continue.

    b. Go to step 8.

    OR:

    a. Enter: N (END LINE), to stop.

Race

RACE is a car racing game in which you, the driver, try to get the fastest time while keeping your car on the track. You can move the car left and right, and speed up or slow down.

The special function keys control the movement of your car as shown below:

KEY #1 and 2 will move car left.
KEY #1 moves car more.
KEY #3 and 4 will move car right.
KEY #4 moves car more.
KEY #5 is the brake.
KEY #6 is the accelerator.

You are on a 1.5 mile track. The clock starts after you press KEY #8.

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "RACE" (END LINE)

2. To start the program:
   a. Press (RUN)

3. When the key definitions and ✳✳✳ PRESS CONT WHEN READY ✳✳✳ is displayed:
   a. Press: (CONT), when you are ready to proceed.

Note: The game will not start until you start the clock as in step 4.

4. To start the clock and the game:
   a. Press: KEY #8.

Note: The keys are defined as in step 5 but the game will not start until KEY #8 is pressed.

5. After the game starts:
   a. Press: KEY #1, to move left a lot.
   OR:
   a. Press: KEY #2, to move left a little.
   OR:
   a. Press: KEY #3, to move right a little.

OR:

a.   Press: KEY #4, to move right a lot.

OR:

a.   Press: KEY #5, to brake 5 miles per hour to a minimum of 5 miles per hour.

OR:

a.   Press: KEY #6, to speed up 5 miles per hour to a maximum of 200 miles per hour.

OR:

a.   Press: KEY #8, to stop/start the clock.

6.   Repeat step 5 until you finish the course.

7.   When your results are displayed and then HIT CONTINUE FOR NEW RACE is displayed:

a.   Press: (CONT), for a new race.

b.   Go to step 4.

Hangman
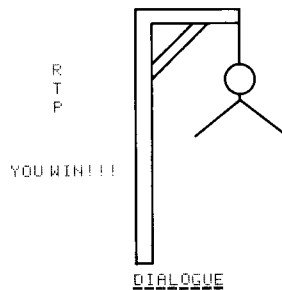
This is the traditional word guessing game in which you try to guess the word before you get "hung". You have the choice of guessing one of the computer's words, or having someone else type in a word for you to guess. You can use the data file stored on the tape or enter and store your own set of words. A series of dashes will appear on the screen, one dash for each letter in the word. Only the letters, A to Z are permitted in the word. All lower case letters will be converted to upper case letters automatically. If the letter you guessed is in the word, it will be filled in everywhere it occurs. If it is not in the word, part of the body will be drawn. If the whole body is drawn (six errors) before you guess the word, you get "hung" and lose. The correct word will then be displayed.

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "HANG" (END LINE)
2. To start the program:
   a. Press: (RUN)
3. When the keys are labelled and SELECT OPTION is displayed:
   a. Press: KEY #1, to have the computer pick a word.
   b. Go to step 5.
   OR:
   a. Press: KEY #2, to have somebody enter a word.
   b. Go to step 4.
   OR:
   a. Press: KEY #3, to stop.

OR:
   a. Press: KEY #4, to load a set of words from a tape file.
   b. Go to step 8.
OR:
   a. Press: KEY #8, to enter a set of words and store them in a data file.
   b. Go to step 9.
4. When WORD? - 23 CHARACTERS MAX. is displayed:
   a. Enter: The word to be guessed (END LINE).
   Note: The entered word will not appear on the display as it is entered.
5. When GUESS? is displayed:
   a. Enter: A single letter guess (END LINE).
6. Repeat step 5 until the word is guessed or you are "hung".

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7. After the word is displayed:

    a. Go to step 3.

8. When F I L E N A M E ? is displayed:

    a. Enter: The file name (END LINE).

    b. Go to step 3.

9. When F I L E N A M E ? is displayed:

    a. Enter: The file name (END LINE) (6 characters maximum).

10. When C R E A T E F I L E : Y / N ? is displayed:

    a. Enter: Y (END LINE) to create the data file.

OR:

    a. Enter: N (END LINE) if the data file already exists.

11. When W O R D # __ ? is displayed:

    a. Enter: A word (END LINE) (14 letters maximum).

OR:

    a. Press: (END LINE) to stop word entry.

12. Repeat step 11 until either all words are entered or 140 words are entered.

13. After the words are stored:

    a. Go to step 3.

Hunt the Wumpus
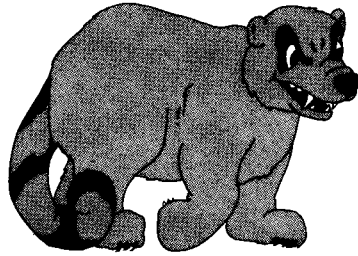
Welcome to 'Hunt the Wumpus'. The wumpus lives in a cave of 20 rooms. Each room has 3 tunnels leading to other rooms. (Look at a dodecahedron to see how this works—if you don't know what a dodecahedron is, ask someone).

Hazards:

>*Bottomless pits—two rooms have bottomless pits in them. If you go there, you fall into the pit (and lose!).

>*Super Bats—two other rooms have super bats. If you go there, a bat grabs you and takes you to some other room at random (which might be troublesome).

Wumpus:

The wumpus is not bothered by the hazards (he has sucker feet and is too big for a bat to lift). Usually he is asleep. Two things wake him up: entering his room or shooting an arrow. If the wumpus wakes, he usually moves one room, but could stay still. If he is awake and in your room, he eats you up (and you lose!).

You:

Each turn you may move or shoot a crooked arrow.

Moving:

You can go one room (thru one tunnel).

Arrows:

You have 5 arrows. You lose when you run out of arrows. Each arrow can be shot into from 1 to 5 rooms. You aim by specifying the room numbers you want to shoot the arrows into. If the arrow can't go that way (i.e., no tunnel) it moves at random to the next room. If the arrow hits the wumpus, you win. If the arrow hits you, you lose.

Warnings:

When you are one room away from the wumpus or a hazard, the computer says: Wumpus—'I SMELL A WUMPUS'   Bats—'BATS NEARBY'   Pit—'I FEEL A DRAFT'

User Instructions

1. To load the program:
    a. Insert the Games Pac cartridge into the tape transport.
    b. Type: LOAD "WUMPUS" (END LINE)
2. To start the program:
    a. Press (RUN)
3. When INSTRUCTIONS:Y/N? is displayed:
    a. Enter: Y (END LINE), if you want instructions.
    b. Go to step 4.
    OR:
    a. Enter: N (END LINE).
    b. Go to step 5.

4. When DISP/PRINT INSTRUCTIONS:D/P? is displayed:
    a. Enter: D (END LINE), to display the instructions.
    OR:
    a. Enter: P (END LINE), to print the instructions.
    Note: You must press (CONT) when you are ready to proceed if the instructions are displayed.

5. When your current position and SHOOT OR MOVE:S/M? is displayed:
    a. Enter: S (END LINE), to shoot.
    b. Go to step 7.
    OR:
    a. Enter: M (END LINE), to move to another room.

6. When WHERE TO? is displayed:
    a. Enter: The room number of an adjacent room (END LINE).
    b. Go to step 10.
7. When NO. OF ROOMS(1-5)? is displayed:
    a. Enter: the number of rooms (END LINE).
8. When ROOM#? is displayed:
    a. Enter: The room number (END LINE) to shoot at next.
9. Repeat step 8 for each room specified in step 7.
    Note: If the room sequence you specify is not possible, the arrow will move at random to the next room. If the arrow hits the wumpus, you win, but if it hits you, you lose.
10. Repeat steps 5 through 9 until you either shoot the wumpus, or lose by falling into a bottomless pit, get eaten by the wumpus, or shoot yourself.
11. When SAME SET-UP:Y/N? is displayed:
    a. Enter: Y (END LINE), to specify the same room set-up.
    b. Go to step 5.
    OR:
    a. Enter: N (END LINE), to have a new set-up generated.
    b. Go to step 5.

King

This game is an economic simulation in which you are in charge of a small country, and must feed the countrymen, plant crops, sell land to industry and fight pollution. You have an eight-year term and the object is to survive all eight years of your term, keeping as many people happy as you can.

Good luck, you may need it!

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "KING" (END LINE)
2. To start the program:
   a. Press (RUN)
3. When INSTRUCTIONS:Y/N? is displayed:
   a. Enter: Y (END LINE), if you want instructions.
   b. Go to step 4.
   OR:
   a. Enter: N (END LINE).
   b. Press: (CONT) to start the game.
   c. Go to step 5.
4. When PRINT THE INSTRUCTIONS:Y/N? is displayed:
   a. Enter: Y (END LINE), to print the instructions.
   b. Press: (CONT) to start the game.
   OR:
   a. Enter: N (END LINE), to display the instructions.

   Note: You must press (CONT) when you are ready to proceed if you display the instructions.
5. When HOW MANY SQ. MILES TO SELL TO INDUSTRY? is displayed:
   a. Enter: The number of square miles to sell to industry.
   Note: This revenue will be added immediately to your total funds.
6. When HOW MANY RALLODS TO DISTRIBUTE TO YOUR COUNTRYMEN? is displayed:
   a. Enter: The amount to distribute to your countrymen (END LINE).
7. When HOW MANY SQ. MILES TO PLANT? is displayed:
   a. Enter: The number of square miles to plant (END LINE).
8. When HOW MUCH TO SPEND FOR EDUCATION? is displayed:

a. Enter: The amount to spend for education $\begin{smallmatrix} \text{END} \\ \text{LINE} \end{smallmatrix}$.

9. When `HOW MUCH TO SPEND TO COMBAT POLLUTION?` is displayed:

   a. Enter: The amount to spend to combat pollution $\begin{smallmatrix} \text{END} \\ \text{LINE} \end{smallmatrix}$.

10. If you are still successfully in office and your term is not completed:

    a. Press: [CONT]

    b. Repeat steps 5 through 9.

11. ` If you have been thrown out of office due to your incompetence, the program stops.

12. If you have finished your eight-year term and `DO YOU WANT TO RUN:Y/N?` is displayed:

    a. Enter: Y $\begin{smallmatrix} \text{END} \\ \text{LINE} \end{smallmatrix}$, to try another term.

    b. Go to step 5.

    OR:

    a. Enter: N $\begin{smallmatrix} \text{END} \\ \text{LINE} \end{smallmatrix}$, to stop.

Nim
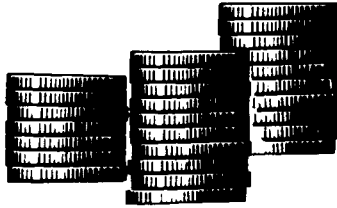
The game of NIM is a classic computer game in which you compete against the computer to see who takes the last star from several piles. In this version, you can specify from 1 to 10 piles with from 1 to 25 stars in a pile. You also have the option of allowing the machine to pick the number of piles and the number of stars in each pile.

When it is your turn, you may take as many stars as you like, but from one pile only. The player who takes the last star wins.

For example, suppose the piles are:

> Pile 1: **
> Pile 2: ***
> Pile 3: **

To take 3 stars from pile 2, you move 3, 2. That leaves:

> Pile 1: **
> Pile 2:
> Pile 3: **

Here we go!

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "NIM" [END LINE]

2. To start the program:
   a. Press: [RUN]

3. When DO YOU NEED INSTRUCTIONS: Y/N? is displayed:
   a. Enter: Y [END LINE], if you need instructions.
   b. Go to step 4.
   OR:
   a. Enter: N [END LINE].
   b. Go to step 5.

4. When DISP/PRINT
   INSTRUCTIONS:D/P? is displayed:
   a. Enter: D (END LINE), to display the instructions.
   OR:
   a. Enter: P (END LINE), to print the instructions.
   Note: You must press (CONT) when you are ready
   to proceed if the instructions are displayed.

5. When DO YOU WANT TO SET UP
   THE PILES YOURSELF:Y/N? is
   displayed:
   a. Enter: Y (END LINE), if you want to specify the
   number of piles and the number of stars in
   each pile.
   b. Go to step 6.
   OR:
   a. Enter: N (END LINE), if you want the computer to
   create a game randomly.
   b. Go to step 9.

6. When HOW MANY PILES DO YOU
   WANT? is displayed:
   a. Enter: The number of piles (END LINE) (10 maxi-
   mum).
   Note: The program will stop if you enter 0 or a
   negative value.

7. When HOW MANY STARS IN PILE
   __ ? is displayed:

   a. Enter: The number of stars in the specified
   pile (END LINE) (25 maximum).
   Note: If you enter a value less than or equal to
   0, the program will assume that there
   were no stars in the specified pile.

8. Repeat step 7 for each pile.

9. When DO YOU WANT TO GO
   FIRST? is displayed:
   a. Enter: Y (END LINE), if you want to go first.
   OR:
   a. Enter: N (END LINE), if you want to go second.

10. When YOUR MOVE:# STARS,
    PILE#? is displayed:
    a. Enter: The number of stars and the pile
    number separated by a comma (END LINE).

11. If WHICH PILE DO YOU WANT? is
    displayed:
    a. Enter: The correct pile number (END LINE).
    Note: If INVALID MOVE is displayed,
    the program goes to step 10.

12. Repeat steps 10 and 11 until either you or the
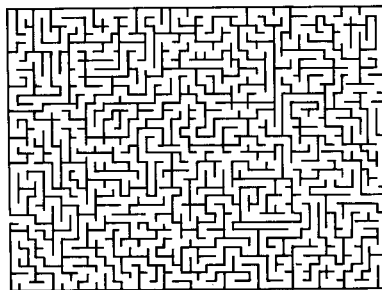   computer wins.

13. When PLAY AGAIN:Y/N? is displayed:
    a. Enter: Y (END LINE), to play again.
    b. Go to step 5.
    OR:
    a. Enter: N (END LINE), to stop.

Maze Generator

This program will design and print out a maze which can be up to 44 by 33 units. Each maze is different and has only one path through it.

You may link several mazes of the same dimension in a continuous strip and thereby generate a maze as long as a roll of paper.

The only inputs that you must make are the maze dimensions. After the dimensions are entered, you must wait while the maze is being generated. After the maze is generated you can choose to copy it or link another maze to it.

The mazes with larger dimensions require significantly more time to generate, but are also much more difficult to solve. If you enjoy finding a path in mazes, this program will generate an endless set of mazes for you to solve.

User Instructions

1. To load the program:
    a. Insert the Games Pac cartridge into the tape transport.
    b. Type: LOAD "MAZE" (END LINE)
2. To start the program:
    a. Press (RUN)
3. When DO YOU NEED INSTRUCTIONS? is displayed:
    a. Enter: Y (END LINE), to display the instructions.
    OR:
    a. Enter: N (END LINE), if you do not want the instructions.

4. When ENTER THE MAZE DIMENSIONS? is displayed:
    a. Enter: The maze dimensions separated by a comma (END LINE). e.g., 44, 33 where the first number is the number of units from left to right and the second is the number of units from top to bottom.
5. When the keys are labelled and SELECT OPTION is displayed:
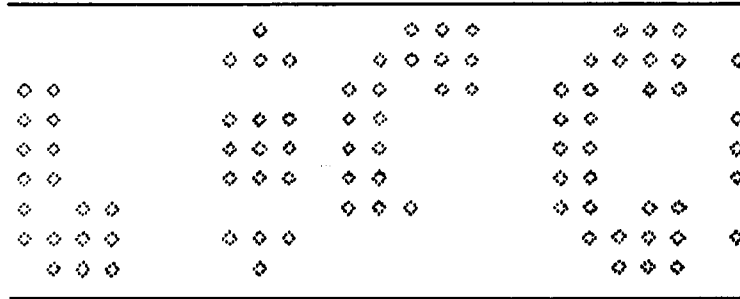   a. Press: KEY #1 (NEW MAZE), to specify a new maze.
    b. Go to step 4.

OR:

a.   Press: KEY #2 (𝙲𝙾𝙿𝚈), to copy the last generated maze.

b.   Press: (KEY LABEL) after the copy is finished.

c.   Go to step 5.

OR:

a.   Press: KEY #3 (𝙻𝙸𝙽𝙺), to copy the last generated maze and generate another maze to be linked to the right side of the current maze.

b.   Go to step 5.

Game of Life

LIFE is a game of births, deaths, and survival.

The idea is to put a pattern of cells on the screen and watch how each generation produces births and deaths according to the following rules:

1. Births occur in an empty cell with exactly 3 neighbors. (A neighbor is an occupied cell in one of the eight adjacent positions.)

2. Deaths occur in two ways. A cell will die of overpopulation if it has more than 3 neighbors, or it will die of isolation if it has less than 2 neighbors.

3. Each occupied cell survives to the next generation if it has 2 or 3 neighbors.

When you run the program, a cursor will appear in the center of the screen. Several special function keys are used with this program:

> KEY #6: NORMAL CURSOR—you can move it around the screen without affecting the cell pattern.
>
> KEY #7: ON CURSOR—each place the cursor is moved to gets a cell.
>
> KEY #8: OFF CURSOR—each place the cursor is moved to has its cell erased (if there's one there).

The following keys move the cursor (any type) one position in the direction indicated:

> KEY #1: UP
> KEY #2: DOWN
> KEY #3: LEFT
> KEY #4: RIGHT
> KEY #5: START—when you press this key, the pattern of cells you have entered will begin generating new patterns according to the 3 rules described earlier.

After the pattern has been entered the keys are relabeled and have the following capabilities:

> KEY #1: Restarts the program destroying the current pattern.

KEY #2:   Enables the user to modify the current pattern by returning to the initial set of capabilities, but does not erase the current pattern.
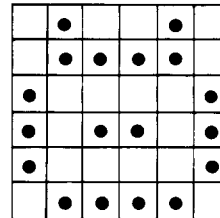
KEY #3:   Toggles a flag which controls the printing of the pattern after each generation. When the flag is on, each generation will be copied.

Some interesting patterns to try:

The glider:
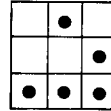
The cheshire cat:

Try putting a cross the entire length and width of the screen.

The display dimensions are 25 by 16 cells.

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "LIFE" END LINE
2. To start the program:
   a. Press RUN
3. After the keys are labelled and there is a cursor in the center of the display, to create the pattern:

a. Press: KEY #1 (UP), to move the cursor up.

OR:

a. Press: KEY #2 (DOWN), to move the cursor down.

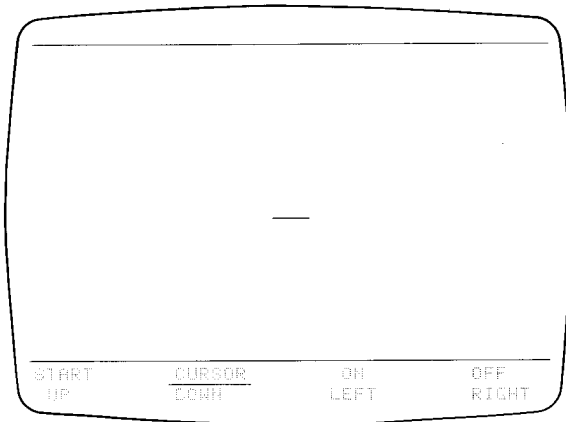OR:

a. Press: KEY #3 (LEFT), to move the cursor left.

OR:

a. Press: KEY #4 (RIGHT), to move the cursor right.

OR:

a. Press: KEY #6 (CURSOR); to specify the normal cursor which can be moved without changing the pattern.

OR:

a. Press: KEY #7 (ON), to specify the on cursor which will put a cell in each location to which it is moved.

OR:

a.   Press: KEY #8 (OFF), to specify the off cursor which will erase a cell in each location to which it is moved (if there's one there).

4.   Press: KEY #5 (START), to begin generating new patterns from the current pattern, and go to step 5.

5.   After the keys are relabelled and the generating commences:
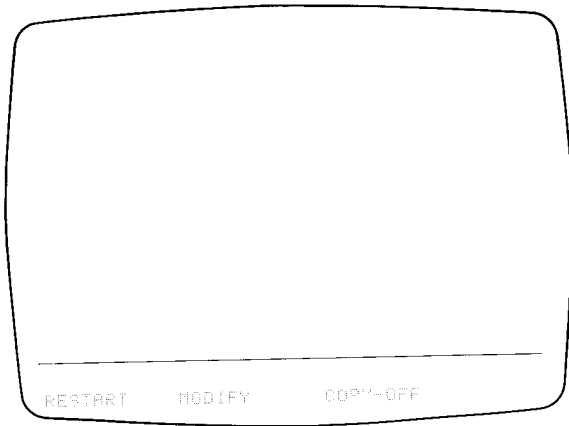
a.   Press: KEY #1 (RESTART), to restart the program and erase the current pattern.

b.   Go to step 3.

OR:

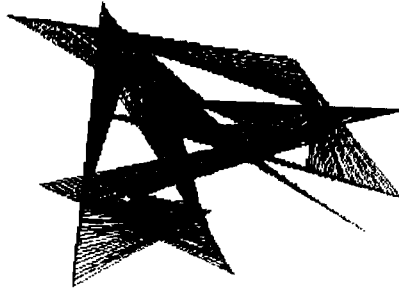a.   Press: KEY #2 (MODIFY), to modify the current pattern.

b.   Go to step 3.

OR:

a.   Toggle: KEY #3 (COPY-OFF or COPY-ON), to change the copy generation flag with each new generation.

Note: If the generation is stable, the program will stop generating, but will wait for your option selection in step 5.

Note: Each generation requires about 20 seconds to compute.

Notes

Birthday Plot

This program will design your very own birthday plot based on your date of birth. All you have to do is enter your name and birthdate and the computer will generate a pattern based on your birthdate.

User Instructions

1. To load the program:
   a. Insert the Games Pac cartridge into the tape transport.
   b. Type: LOAD "BIRTHP" (END LINE)

2. To start the program:
   a. Press (RUN)

3. When ENTER YOUR NAME, PLEASE? is displayed:
   a. Enter: Your name (END LINE) in 32 characters or less.

4. When ENTER YOUR BIRTHDAY, (MMDDYY)? is displayed:
   a. Enter: Your birthday (END LINE), e.g., January 4, 1950 would be entered as 10450.

5. To generate another plot, go to step 2.

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Addendum Card

The following information will increase your understanding of the disc version of this pac, and hopefully facilitate operation of the programs.

Printer Prompt

You have the ability to choose the output device by selecting the proper output code. After loading the program and pressing (RUN) , the printer prompt will ask you to specify the output device with the following codes:

Enter: 1 (END LINE) will direct system output to the CRT

Enter: 2 (END LINE) will direct system output to the internal printer

other numbers of specific printers will direct system output to an external printer.

A system output test is included with the above entry which will advance the desired printer one line if the system is operating properly.

Output via the CRT

When the CRT is chosen as the output device, the program will pause when displaying more than one full screen to allow full retention of output data. Simply press (CONT) to continue viewing until output is complete.

Operating Limits

The maximum operating limits of some of the programs have been slightly modified to accommodate the disc version of this pac. This need only be of concern as you approach these maximum operating limits.

References to Tape

All references to tape in this manual will be understood as references to the current mass storage medium, and therefore will apply to the disc version of this pac.

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For additional information please contact your local Hewlett-Packard Sales Office.