

One Zero One

The binary card game

Players: 2

Ages: 8+

Play Time: 10 minutes

In the world of computer programming, there can only be one winner - either zeros or ones!

One Zero One is a small, tactical card game for two players. With identical 16-card decks, each player (as either 0 or 1) plays cards to the program display, endeavouring to gain control of the lines of program code. Control is earned by having the majority of cards in a line when the program runs. Each line is worth a set number of points. As soon as the program runs, points are tallied and the winner is determined.

Most cards have commands which will affect the cards already in play. The order and position of cards played by each opponent will have a huge bearing on the outcome, as will the ability of the players to adjust their strategies as the programming code changes...

Contents:

52 Command cards (26 green, 26 grey)

5 Line cards

5 Control cards

1 RUN card

1 rule booklet

Setting up the game

First, set up the program display:

As per the image below, place the 5 Line cards in a vertical column down the centre of the play area (10-50), with the 5 Control cards to the left of them in a portrait orientation (signifying that neither 0 nor 1 is in control of the lines). Then place the RUN card approximately 4 card widths to the right of the 50 line number card.

Second, give each player their decks:

Collect all the Command cards (those with 0s on one side and 1s on the other). One player receives all the cards with green digits, the other player receives the cards with grey digits. Each player should have 17 cards. These two decks contain identical cards. The different colours have no value or purpose, other than to help when handing out the decks.

** Unless you are playing one of the game variants (see further in this rule book) you will only need the command cards bearing the following text: "ENTER", "PRINT", "DELETE", "IF...THEN" and "SAVE", as well as all the command cards without text – just the numbers 0 and 1. Remove all the other cards from the game. For information on how to play the game with the extra cards, please read the Variants section of these rules.*

Then, get ready to begin:

One player will be "0" and must flip all of their 17 cards to the 0 side. The other player will be "1". They must flip all their cards to the 1 side. Players must then remove one card from their piles with no command text (PRINT, ENTER, etc.) on it and set it aside for now. Their remaining 16 cards are to be shuffled thoroughly and placed in a pile in view of each player with their representative numbers (0 or 1) facing up.

Randomly decide which player will go first (perhaps you could flip a card to see whether it lands with its 0 or 1 side facing up). The starting player will place the card they had previously put aside to the immediate right of the 10 Line card, with their player digit (0 or 1) facing up. The player going second will do likewise but place their card to the right of the 20 Line card. Players will then draw the top 3 cards from their decks. This is their starting hand for the game. Play then begins with the player already chosen as the first player.



Example of a game set up and ready to begin.

In this example, 0 is playing first. Each player's decks are face up in front of them and they are holding hands of 3 cards. On the first turn, grey (0) will play a card to either the 10 or 20 line, directly to the right of the cards already placed in those lines.

The player's turn:

On every player's turn, these three things must happen:

- 1) INPUT: Play a card from your hand to the program.**
- 2) EXECUTE: If the card you played had command text on it you will execute the command.**
- 3) LOAD: Draw cards from your deck until you have 3 cards in your hand.**

These steps in detail:

- 1) INPUT: Play a card from your hand to the program.**

On their turn, players must select one card from their hand to play on one of the lines in the program display.

When playing a card, the following placement rules must be followed:

- 1) The card must be played with the player's digit (0 or 1) facing up.
- 2) The card may be rotated (to ensure command texts are on a particular edge) before being placed, but the card must be placed in a portrait (up-and-down or vertical) orientation.
- 3) The card must be placed in the left-most empty space in a program line. If the line is empty, the card will be placed directly to the right of the Line card, otherwise it will be placed to the right of any player's cards already in that line. Sometimes gaps will appear in program lines, therefore, cards played to that line must be played into those gaps before any card is played to the end of a line. Note that cards can never be played between two other cards in the program if there is no gap already between them.
- 4) Except when playing to the 10 and 20 line, no card may be played to a program line unless every row above it has at least 3 cards already placed in it. (Some card commands will break this rule.)
- 5) Once a card is placed in a program line it can never be rotated or moved in any way (unless a card's command forces this to happen - see below), and no card may be placed on top of another card.
- 6) There is no limit to the number of cards that may be played to a program line, except for the 50 line. No more than three cards may ever be played in that line.

- 2) EXECUTE: If the card you played had command text on it you will execute the command.**

10 of the 16 cards in each player's decks have commands printed on them (2x: DELETE, ENTER, IF...THEN..., PRINT and SAVE.) If a player plays one of these cards, then its command, or special action,

must go into effect immediately. The card that will be affected by this command is the card that the command text is oriented toward when it is played to the program display. If a card with a command is placed so that the command text is directed towards an empty space (except in the cases of PRINT and SAVE - see below) or, outside the boundaries of the program display (pointing towards a line number card, the RUN card, above the top line, or below the bottom line), then the command will have no effect. Except in the case of SAVE, the effects of these command cards never recur. They are at most one use only!

The different Command effects are explained in detail further on in these rules.

3) LOAD: You will draw cards from your deck until you have 3 cards in your hand.

Usually this will simply mean the players will draw one card, however, after playing one or more PRINT cards from their hand, players will need to draw more. Players can never have more than 3 cards in their hand. Players cannot draw new cards to their hand until it is the end of their turn. Players can never "trash" cards from their hand. The only way to remove a card from their hand is for a player to play it to the program on their turn.

Controlling program lines:

At the end of the game, points are awarded to the player that is in control of each program line. (The points are denoted on each program line number card, ie: 10, 20, 30, 40 or 50 points.) In order to win the game, a player must be in control of program lines that give them more total points than their opponent.

For a player to gain control of a program line, two things must happen:

- 1) The player must have more cards in the line with their digit face-up than the other player (irrespective of colour), and,
- 2) There must be at least three cards in the program line.

If neither of these conditions are met, then neither player is in control of the program line and neither player would be awarded points for that line if the game was to end.

Gaps may appear in the program lines due to different command effects, but this does not affect control in any way. To determine control, count the number of cards of each digit on both sides of any gap.

As soon as a player is deemed to be in control of a program line, the Control card of that line should be rotated to denote which player is in control. This helps players to see quickly how many points they would have if the game was to end at that particular moment. Whenever a program line is deemed to be under neither player's

control, its Control card should be returned to a vertical orientation to show this.

The end of the game:

Most of the time, a game of *One Zero One* will not end until one of the players makes it happen. Deciding when to end the game (or to dissuade the opposing player from ending the game) is very important.

The game ends in either of these two ways:

- 1> Immediately after the 3rd card is played to the 50 program line (ie: next to the RUN card), or,
- 2> Immediately after either player attempts to draw cards from their deck at the end of their turn and they are unable to draw back up to a hand of 3 cards (their deck is depleted).

Usually the game will end by the placement of a third card in the 50 line, which runs the program and ends the game. At this point, players will add up all the points of all the program lines they are in control of, and the player with the highest points wins the game!

In the case of a tie, the player who was in control of the higher numbered program line wins.

In very rare situations, when the 2nd game-ending condition is met (a deck is depleted), the game may end with every single program line in dispute (neither player scores any points). In this situation, the game is considered a draw and a rematch should be played.

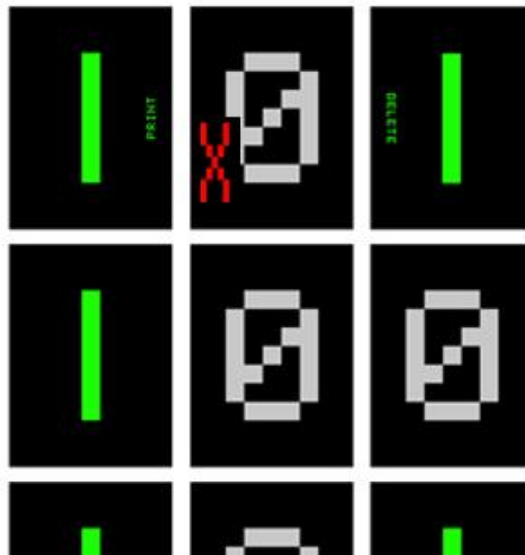
<I 0>	10	0	1	0	
<I 0>	20	0	0	0	1
<0 1>	30	1		1	1
<I 0>	40	1	0	0	1
<0 1>	50	1	0	1	RUN

Example of a game at its completion.

In this example, "1" won 80-30! Note that until the final card was placed in the 50 line, the game was tied at 30-all.

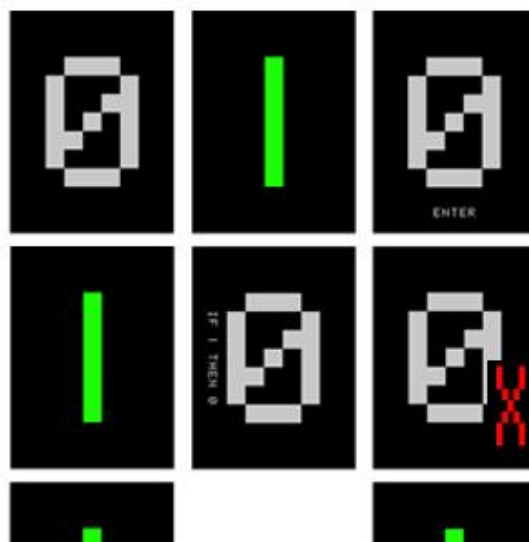
The different Commands and their effects:

DELETE: When a DELETE card is placed so that the word DELETE is alongside another card, that neighbouring card is immediately removed from the game. If this causes a gap in a program line, that gap remains until a player places a card there on any subsequent turn.



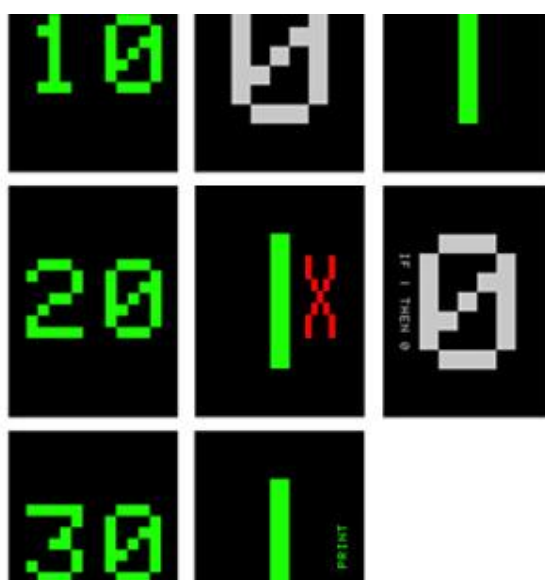
In this example, the card with the X would be deleted

ENTER: When an ENTER card is placed so that the word ENTER is alongside another card, that neighbouring card is immediately moved from its position and placed in the program line below its original position, according to the card placement rules (even if this will place that card on a new line before all the lines above it have at least 3 cards in them). If this causes a gap in a program line, that gap remains until a player places a card into that gap on any subsequent turn. If a card in the 50 program line is affected by ENTER, it is to be placed in the 10 line.



In this example, the card with the X would be moved to the next line

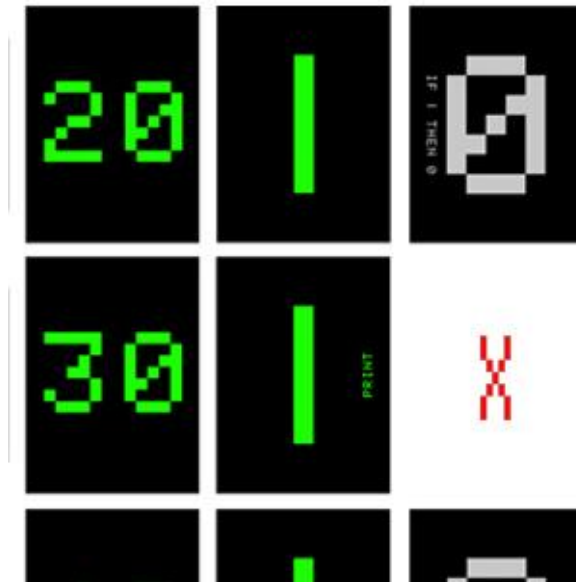
IF...THEN...: When an IF...THEN... card is placed so that the words IF...THEN... are alongside another card, that neighbouring card is immediately flipped to the side showing the digit that the IF...THEN... command text dictates.



In this example, the card with the X would be flipped

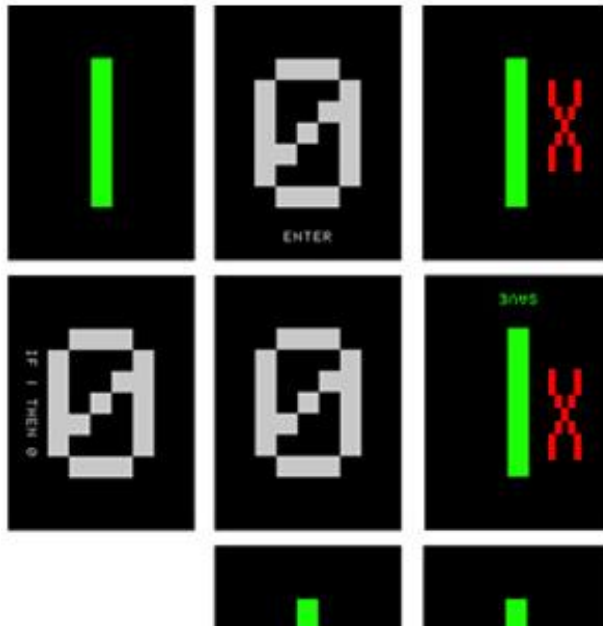
PRINT: When a PRINT card is placed so that the word PRINT is alongside an empty space (either at the end of a program line, a gap in the middle of a program line, or an empty position above or below that card's program line), that empty space must be filled immediately with another card from the hand of the player who just played the PRINT card (even if this will place that card on a new line before all the lines above it have at least 3 cards in them). If the "printed" card also has command text upon it, that command must be put into effect also. If the "printed" card must be placed so that there are gaps in the program line on one or either side of it, the card must not move to fill those gaps - it "hangs" in the space

it was PRINTED into. If a PRINT card's command text is played alongside another card, nothing happens.



In this example, the space with the X would have another card placed into it

SAVE: When a SAVE card is placed so that the word SAVE is alongside another card, both that neighbouring card, and the card with the SAVE command on it, are protected for the remainder of the game. Neither card may be moved or affected in any way by any card. If another card with a command text is placed so that its command text is placed alongside one of the "saved" cards later in the game, that command would simply have no effect. Note, that if a SAVE card is placed so that the SAVE command text is alongside an empty space, then the next card played into that space will be the card that earns the SAVE card's effects.



In this example, the cards with the Xs would be saved

Variants:

OPEN SOURCE:

The default method of play is for each player's decks to be in full-view of either player (each player can see what card their opponent will draw next), while their hand cards remain hidden. It is possible to play with each player's hand cards always in view (laid on the table). This can make the game easier as players can see what commands are available to their opponent at any time. With this variant, players who can see all the options available to their opponent may wish to forfeit instead of playing out a guaranteed loss.

The following sets of variant cards may be included to player's decks to increase variability when playing One Zero One. However, when experimenting with different deck set-ups, please ensure that each player's deck size does not go beyond 16 cards, and that both players begin the game with identical cards in their decks. Decks should also have 6 cards without commands and 10 with commands (or as close to that number as possible.) Enjoy using these different cards – using different combinations can make every game feel unique!

SYNTAX ERROR:

When a SYNTAX ERROR card is played to a program line, every card already in its column (not row), and in the direction of the command text on the SYNTAX ERROR card, must be flipped to its opposite side, as well as the SYNTAX ERROR card itself.

REM:

When a REM card is played to a program line, every card in the direction of the REM text (ie: either to the left or the right of the card), INCLUDING any cards that are played there on a future turn, do NOT count when determining control of that program line.

GOTO 10:

When a GOTO 10 card is placed so that the command GOTO 10 is alongside another card, that neighbouring card is immediately moved to the next legal position on the 10 program line.

IF...THEN...ELSE...:

When an IF...THEN...ELSE... card is played, EVERY neighbouring card is affected by it (unless SAVED.) First, any neighbouring card that does not match the face-up digit of the IF...THEN...ELSE... card is flipped. Second, any neighbouring card that did match the face-up digit of the IF...THEN...ELSE... card is DELETED.

CUT AND PASTE:

It is suggested that both these sets of command cards should appear together in a game – do not play with PASTE cards if you are not using CUT cards.

When a CUT card is placed so that the word CUT is alongside another card, that neighbouring card is immediately removed from the program display and placed in a discard pile. If this causes a gap in a program line, that gap remains until a player places a card there on any subsequent turn.

When a PASTE card is placed so that the word PASTE is alongside an empty space (either at the end of a program line, a gap in the middle of a program line, or an empty position above or below that card's program line), that empty space must be filled immediately with a card from the discard pile of previously "cut" cards (even if this will place that card on a new line before all the lines above it have at least 3 cards in them). The "pasted" card could have been CUT by either player. If no cards had previously been "cut" then this card has no effect.

NOTE: If the "pasted" card has a command text on it, that command may be executed for a second time!

Credits:

Game design:

David Harding

Graphic design:

David Harding

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grailgamesinfo@gmail.com
<http://www.grail-games.com>

Visit our page on BGG: <http://boardgamegeek.com/boardgame/150298/binary> for forum discussion, images and videos about the game.

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