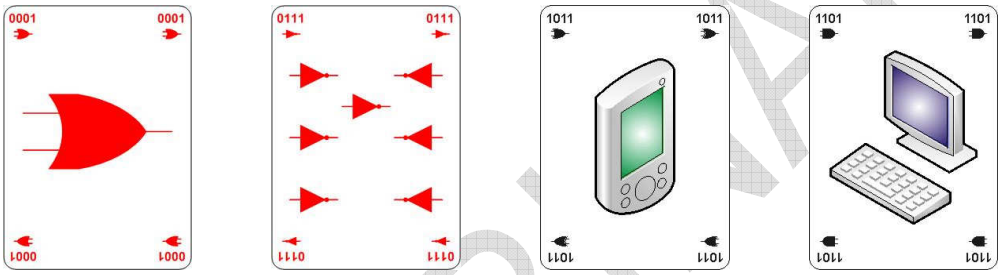
SOLBIT

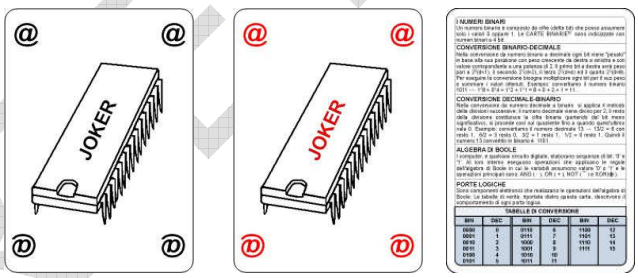
To play SOLBIT you need a deck of BINARY PLAYNG CARDS characterized by 4 suits:

- OR
- AND
- NOT
- XOR

Each suit is shown on 13 cards whose binary number varies from 0001 to 1101, 3 court cards are present in each suit: handheld, printer and computer.



The deck includes also 2 jokers represented by an integrated circuit and the 55th card showing the base information about the binary numerical system, the logic gates and the relevant truth table.



TRUTH TABLE

The truth table describes how the logic gates work. Hereafter the logical gates relevant to the suits of Binary Playing Cards.

OR		
0	0	0
0	1	1
1	0	1
1	1	1

AND		
0	0	0
0	1	0
1	0	0
1	1	1

NOT	
0	1
1	0

XOR		
0	0	0
0	1	1
1	0	1
1	1	0

RULES OF THE GAME

Number of players: 1

Starting

You need a deck complete with 52 cards, joker excluded.
Shuffle the deck and take the first card of each suit, place 4 cards face down on the table, shuffle them and place the cards side by side in a row (row no.0). Choose a card and turn it face up; this card is the key-card of the game.

Aim of the game

To use all the cards to complete six rows repeating the binary number of the key card.

The game

Keeping the deck in hand with face down play the cards one by one taking them from the top of the deck and place them under the 4 cards of rows no.0, if useful to complete one of the 4 bits of the key-card, otherwise put the card in another stock face up.

Under each card of row no.0 place couples of cards of same suit whose result of the logical operation, carried out with the numbers and the logical operator of the cards, is the binary number of the key-card.

The position of the suit in the row no.1 is “OR AND NOT XOR”, according to the 55th card, in the row no.2 the suits are displaced of one position to the left; that is “AND NOT XOR OR”, and so on the for the following rows.

Let’s see row no.1

- Position 1 - the result of the logical operation OR between the first bit of the two cards has to be the same of the first bit of the key-card
- Position 2 - the result of the logical operation AND between the second bit of the two cards has to be the same of the second bit of the key-card
- Position 3 - the result of the logical operation NOT is fixed by a card only and it has to be the same as the third bit of the key-card; the operation has to be carried out with two single cards
- Position 4 - the result of the logical operation XOR between the fourth bit of the two cards has to be the same of the fourth bit of the key-card

For the logical operation see “Truth table”.

You can choose not to play a card even though it gives a correct result and put it in the stock aside, actually if this card is played at the “wrong” moment it can prevent you from completing the solitaire.

Example

Let's assume that the key-card is 0111 AND.

- First bit: it has to be the result of the two cards of suit OR with the first bit 0, actually the logical operation OR gives the result 0 if both bits are 0
- Second bit: it has to be the result of the two cards of suit AND with the second bit 1, actually the logical operation AND gives the result 1 if both bits are 1
- Third bit: it has to be the result of the two cards of suit NOT with the third bit 0, actually the logical operation NOT denies the value of bit

Fourth bit: it has to be the result of the two cards of suit XOR with the fourth bit different one from the other, actually the logical operation XOR gives the result 1 if the bits are different only