USE YOUR BRAIN
MAGICAL CHALLENGE
Sort of Equal

CAN YOU FIGURE OUT HOW TO TURN A FOOLISH BOAST INTO A MAGICAL FEAT?

The Problem

If you've ever seen an Othello set, you know that the pieces are interesting. On one side the pieces are black, the other they are white. Otherwise, the two sides are identical and indistinguishable.

One day you are about to play a match of Othello. Your friend dumps all of the pieces onto the table. As you set up the board you begin arguing about who will go first. You look over the pieces as your friend grins.

"I bet I can sort the pieces into two groups and have the same number of pieces black side up in each pile," your friend says. "I bet I can do it in 30 seconds. If I can, I go first."

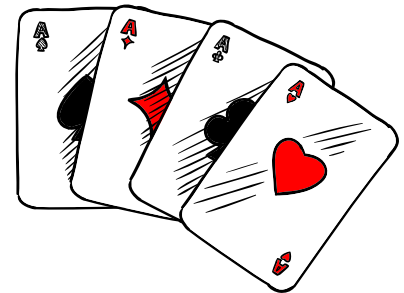"That's too easy," you say. "I bet I can do it in twenty seconds."

"I bet I can do it in ten seconds," your friend counters.

That looks tricky. You look over the pieces and see 15 are black side up. You aren't sure you can sort them in less than ten seconds, but then a crafty thought enters your head.

"I can also do it in ten seconds," you say. "But I can do it blindfolded!"

Your friend takes you on your challenge. Did your bluff just get called? There is no way you can remember where all of the black pieces are and find them while blindfolded. In fact, when you put the blindfold on you can't even remember where any of them are. Can you actually sort the pieces in 10 seconds while blindfolded or did you bite off more than you can chew?

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The Solution

You absolutely can do it if you have the right plan! The key is that you know how many black side up chips there are on the table. All of the other details, like the number of white side up chips and which chips are where aren't important. With your ten seconds here is what you have to do:

Grab fifteen chips. Flip them over. Set them in a separate pile.

That's it! If you do it right you will always have the same number of black chips in front of you as there are left in the pile in the middle of the table.

If your not certain if this is true, follow along with this example. Say when you take the 15 chips and all of them are white side up. This means all 15 black side up chips are still in the pile. So when you flip over your 15 white side up chips, you now have 15 black side up chips! You win! Now say you grab 14 white side up chips and 1 black side up chip. This means that there are 14 (15-1) black side up chips in the pile. So when you flip of your 14 white side up chips you now have 14 black side up,. Your one black side chip is flipped to white. You win again! If you follow this pattern, you'll see this strategy always works no matter the number.

Make it Magic

You can use this strategy to perform a very easy card trick. Take a deck of cards (any kind of card will work, even an incomplete deck) and give it to your audience member. Describe that you will be able to sort the cards into two piles with the same number of flipped cards in each pile and that you will do it in ten seconds (or a little more if you're not sure you're fast enough) while blindfolded! Ask them to flip over cards one at a time and count them out loud. Tell them they can stop whenever they want. When they do have them shuffle the cards they counted back into the deck upside down. Let them mix up the cards but make sure they don't flip any. Have them hand you the cards and put on your blindfold (you can start counting now for a little head start). Have someone time you. Count the same number of cards the audience member did, flip them over and put them in one pile. Put the rest in another pile. You might want to work under a table or behind a screen so the audience can't see what you are doing. Take off the blindfold and go through each pile. If you did it right they will have the exact same number of face up cards in each! Like any trick, make sure to practice and you'll put on a great show!