

27 Cards Trick: Let Me Find It!

What the audience sees.

You have a stack of cards, and tell the audience that there are 27 cards in it. You also tell them that 27 is a nice number (you can even say that it is your favorite number, if you wish) because it is 3 to the power 3, and point out that this will be important for the trick. You ask a volunteer from the audience to choose any card from the stack and memorize it. Showing it to the audience would be even better, but they should not tell you what card it is. The volunteer puts the card back into the stack. Then you explain that you will put all the cards into 3 stacks 3 times, and each time you will memorize all the cards in each pile while doing so. The volunteer will have to tell you which of the 3 stacks contains his/her card (but still not tell you which card it is). After putting all the cards back, you'll be able to find the volunteer's card. It sounds impossible to memorize the distribution of 27 cards into 3 piles each time. However, after you reassemble the cards the third time, you start looking through them and very quickly you find the card that the volunteer chose.

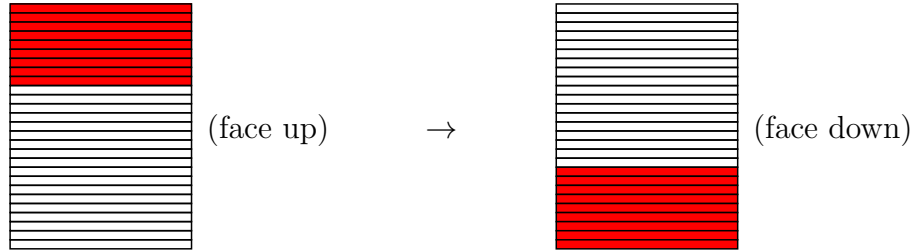
How you do it.

You don't actually have to memorize anything. The position of the card in the end will be determined by how you reassemble the 3 stacks each time. In the beginning you get the stack with the volunteer's card in it, and you do not know its value or position. Keep the cards face down in one hand and start putting them into 3 stacks, face up: you put one card into the first stack, one into the second, one into the third, then one into the first one again, and so on. When you are done (there will be 9 cards in each stack), the volunteer tells you which stack contains his/her card. It is important to put that stack on TOP when you put the three stacks together (still face up). Then you turn the whole stack over, and repeat the process of putting the cards into 3 stacks face up. Again, you are told which stack contains the volunteer's card. This time you put that stack on BOTTOM (again, you reassemble the cards still face up). You turn the whole stack over again, and put the cards into 3 stacks one last time. The stack with the volunteer's card has to go on TOP again. Now, you take the whole stack, face up, and pretend to look through the cards. However, you simply count to the 7th card. The 7th card is the card the volunteer chose in the beginning, so you take it out and show to the volunteer/audience.

Why it works.

Let's trace the cards in the stacks we were told to contain the volunteer's card.

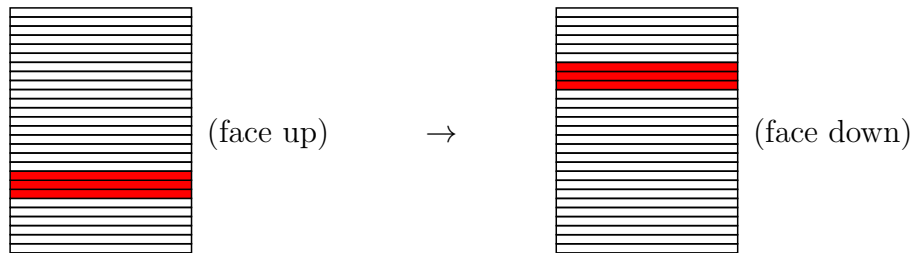
First time you reassemble the 3 stacks, the stack with the volunteer's card goes on top. After you turn the whole stack over, these 9 cards are on the bottom:



When you put them into 3 stacks again, these 9 cards take the top 3 spots in each stack:



The volunteer tells you which of the stacks contains his/her card, and you put this stack on bottom. Now you know that the volunteer's card is one of the following: 7th, 8th, or 9th from the bottom. After you turn the whole stack over, these three cards become 7th, 8th, and 9th from the top:



When you put the cards into 3 stacks again, these three cards take the 3rd positions from the bottom, which are the 7th positions from the top:



Finally, you put the stack that the volunteer points to on top, and his/her card becomes 7th in the whole stack.

