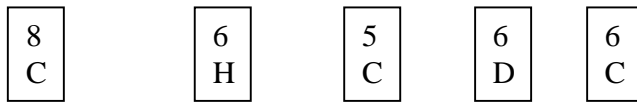


3. PLAY YOUR NEIGHBOR SOLITAIRE 10 POINTS

PROBLEM: Start with a standard deck of 52 cards. The first card is dealt out face up and is the first pile. A second card is dealt. If it matches the first card in number or suit, place it on top of the first card. If it does not match, create a second pile to the right of the first pile. A third card is dealt. Compare it to the top card in the rightmost pile. If it matches, place it on top of that pile and then compare that new top card to the top card of the pile to its left (if there is one). If it matches, place all the cards in that pile on the pile to the left. Each time a card or pile is placed on top of an existing pile, the neighbor (pile to its left) must be checked for a match. A new card is dealt only after there are no more matches.



Consider the cards above. The first card dealt was the 8C. It became the first pile. The second card dealt was the 6H. It did not match in suit or number to the 8C. It became the second pile. The third card dealt was the 5C. It did not match and so became the third pile. Likewise the fourth card, the 6D, became the fourth pile. The fifth card, the 6C, matched the top card in the rightmost pile and was placed on it. The top card on each pile is: 8C 6H 5C 6C

But now the top card of the rightmost pile matches the top card of the pile to its left. All the cards in the rightmost pile are placed on top of the pile to its left. The top card on each pile is: 8C 6H 6C

But now the top card of the rightmost pile matches the top card of the pile to its left. All the cards in the rightmost pile are placed on top of the pile to its left. The top card on each pile is: 8C 6C

But now the top card of the rightmost pile matches the top card of the pile to its left. All the cards in the rightmost pile are placed on top of the pile to its left. Now there is just one pile. The top card is the 6C.

INPUT: There will be 10 inputs. Each input will contain an integer stating how many cards will follow and then the list of cards. Each card must be read in as a two-character string. The following convention will be used for cards that are not single digits: Ace=A, 10=T, Jack=J, Queen=Q, King=K. The suits are C,S, D, and H for clubs, spades diamonds and hearts respectively.

OUTPUT: Print the top card in each pile in order from left to right.

SAMPLE INPUT

1. 5, 8C, 6H, 5C, 6D, 6C
2. 6, 3C, 4H, 5S, 6D, 7C, AS

SAMPLE OUTPUT

1. 6C
2. 3C, 4H, 5S, 6D, 7C, AS