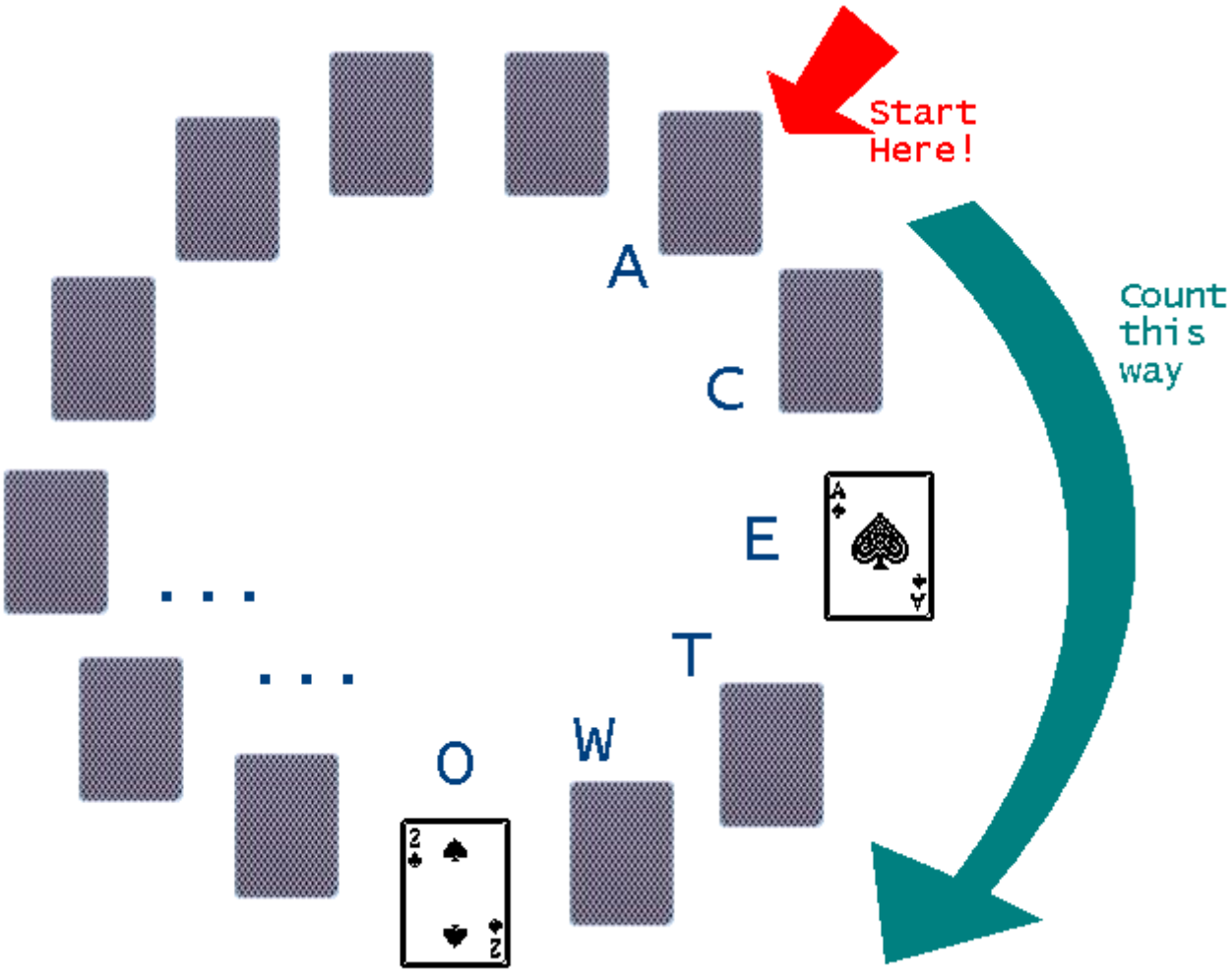
UVa Online Judge

10978 Let's Play Magic!

You have seen a card magic trick named "**Spelling Bee**". The process goes as follows:

1. The magician first arranges 13 cards in a circle, as shown in the figure below.
2. Starting from the marked position, he counts the cards clockwisely, saying "A–C–E".
3. He turns the card at the "E" position, and... it is an Ace!
4. Next, he takes away the Ace and continues to count the cards, saying "T–W–O".
5. He turns over the card at position "O" ... it is a Two!!
6. He continues to do this with the rest of the cards from Three to King. :-)



Now, how does the magician arrange the cards?

Input

Input consists of several test cases. Each case begins with an integer N ($1 \leq N \leq 52$), the number of cards to be used in the magic trick. The following N lines show the order of the turning-over of the cards and the words to be spelt. None of the words will have more than 20 characters. The format for each card is a string with two characters: first the value, and second the suit.

Input ends with a test case where $N = 0$. This test case should not be processed.

Output

For each case, your program should output the initial arrangement of the cards.

Sample Input

```
13
AS ACE
2S TWO
3S THREE
4C FOUR
5C FIVE
6C SIX
7D SEVEN
8D EIGHT
9D NINE
TH TEN
JH JACK
QH QUEEN
KH KING
0
```

Sample Output

```
QH 4C AS 8D KH 2S 7D 5C TH JH 3S 6C 9D
```