

# Problem C: Symmetric Order

Source file: order.{c, cpp, java}

Input file: order.in

Output file: order.out

In your job at Albatross Circus Management (yes, it's run by a bunch of clowns), you have just finished writing a program whose output is a list of names in nondescending order by length (so that each name is at least as long as the one preceding it). However, your boss does not like the way the output looks, and instead wants the output to appear more symmetric, with the shorter strings at the top and bottom and the longer strings in the middle. His rule is that each pair of names belongs on opposite ends of the list, and the first name in the pair is always in the top part of the list. In the first example set below, Bo and Pat are the first pair, Jean and Kevin the second pair, etc.

**Input:** The input consists of one or more sets of strings, followed by a final line containing only the value 0. Each set starts with a line containing an integer,  $n$ , which is the number of strings in the set, followed by  $n$  strings, one per line, sorted in nondescending order by length. None of the strings contain spaces. There is at least one and no more than 15 strings per set. Each string is at most 25 characters long.

**Output:** For each input set print "SET  $n$ " on a line, where  $n$  starts at 1, followed by the output set as shown in the sample output.

Example input:	Example output:
7 Bo Pat Jean Kevin Claude William Marybeth	SET 1 Bo Pat Jean Kevin Claude William Marybeth
6 Jim Ben Zoe Joey Frederick Annabelle	SET 2 Jim Zoe Frederick Annabelle Ben
5 John Bill Fran Stan Cece	SET 3 John Fran Cece Stan Bill
0	

*Last modified on October 31, 2004 at 3:20 PM.*