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PROBLEM: The Passort algorithm for sorting a string operates as follows:

1. Find the smallest character not in its correct final position. Swap it with the character where it belongs. Use the first occurrence when characters are the same.

2. Find the largest character not in its correct final position. Swap it with the character where it belongs. Use the last occurrence when characters are the same.

3. Repeat steps 1 and 2 until the string is sorted.

Characters are compared based on their ASCII codes: numbers, then upper case letters, and finally lowercase letters.

EXAMPLE:

                                                                A S O R T I N G

pass 1:	smallest character not in position is the G	
	swap it with the S:	A **G** O R T I N **S**
pass 2:	largest character not in position is the T	
	swap it with the S:	A G O R **S** I N **T**
pass 3:	smallest character not in position is the I	
	swap it with the O:	A G **I** R S **O** N T
pass 4:	largest character not in position is the S	
	swap it with the N:	A G I R **N** O **S** T
pass 5:	smallest character not in position is the N	
	swap it with the R:	A G I **N R** O S T
pass 6:	largest character not in position is the R	
	swap it with the O:	A G I N **O R** S T

At this point, the string is sorted so we are done. There were 6 swaps.

INPUT: There will be 10 lines of data. Read each line as a string.

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OUTPUT: Run Passort on each input string after all non-alphanumeric characters have been deleted from the string. Print the number of swaps made during the execution.

SAMPLE INPUT:	SAMPLE OUTPUT:
ASORTING	1. 6
10 Java Programs	2. 11
CONNECTICUT - CT	3. 9

TEST DATA

TEST INPUT:

ASORTINGALGORITHM
ACSL All-Star Contest
0123456789BDFHJLNPRTVXZacegikmoqsuwx
ZYXWVUTSRQPONMLKJIHGFEDCBA
AP COMPUTER SCIENCE PRINCIPLES is abbreviated AP CSP
American Computer Science League uses ACSL
IT'S A BEAUTIFUL DAY IN THE NEIGHBORHOOD
CONNECTICUT is the CONSTITUTION STATE!
APPLE,BANANA,GRAPE,PEACH,PEAR,ORANGE,GUAVA,PAPAYA,MANGO,KIWI,PINEAPPLE
There are 10 Kinds of People in the World, Those Who Know Binary and Those Who Don't.

TEST OUTPUT:

1.   11
2.   12
3.   0
4.   13
5.   36
6.   30
7.   27
8.   31
9.   52
10.   58