



2019-2020

AMERICAN COMPUTER SCIENCE LEAGUE

Contest #2

Intermediate Division - ACSL Sameness Factor

考号/Exam Code : _____ 姓名/Name : _____ 学校/School : _____

PROBLEM: Given 2 strings, separated by a space, calculate the ACSL Sameness Factor (ASF). Repeat the following 3 steps in order until no other deleting aligns like characters:

- Align the strings from left to right.
- Delete the like characters in the like locations from left to right.
- Proceeding from left to right, if the like location characters are not the same and deleting a character at a location in one of the strings which shifts the remaining characters to the left causes like characters to be at that location, delete those characters and any other like characters at like locations. If there is a case as in NAPE and ANTI where it is possible to delete a character at the same location in both strings, then delete it in the second string. Therefore, the A would be deleted and the NTI shifted to the left.

Calculate the ACSL Sameness Factor by doing the following:

- Calculate the difference in the alphabetic locations from the aligned string characters in the second string to the string character in the first string. B to D would add 2 to the ASF. D to B would add -2 to the ASF.
- If there are characters remaining in one of the strings, add the number of those characters to the ASF.

Example: ABCDEFT ABXCGBTZFP

ABCDEFT → ~~A~~BCDEFT → CDEF → ~~C~~DEF → DEF → ~~DE~~F → DE
 ABXCGBTZFP → ~~A~~BXCGBTZFP → ~~X~~CGBZFP → ~~C~~GBZFP → GBZFP → ~~GB~~ZFP → GBP

The ASF is calculated as: G to D = -3 B to E = +3 P = +1 (-3 + 3 + 1 = 1)

INPUT: There will be 5 inputs. Each input will contain 2 strings separated by a space and each fewer than 200 characters.

OUTPUT: For each input, print the ASF as described above.

SAMPLE INPUT**SAMPLE OUTPUT:**

BLAMEABLENESSES BLAMELESSNESSES	1. -35
MEZZAMINES RAZZMATAZZ	2. -5
ABBREVIATIONS ABBREVIATORS	3. -4
ABCDEFGH IJKLMNOP ABKCLDZZHQJWWLX	4. -86
ABCDEFGH IJKLM ABXEWFRRH	5. -52

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TEST DATA

TEST INPUT:

MYARTLOLLIPOPS MYLARBALLOONS
MASSACHUSETTSBAYCOLONY MINUTEMANNATIONALHISTORICALPARK
LOWERMACTOWNSHIPPA CRANBERRYTOWNSHIPPA
AMERICANCOMPUTERSCIENCELEAGUE NATIONALACADEMICGAMESLEAGUE
ABCDEFGHIJK ABDCEFGKILKJMN



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PROBLEM (问题) : 给定2个字符串, 用空格分隔, 计算ACSL Sameness Factor (ASF)。按顺序重复以下3个步骤, 直到两个字符串对齐后相同位置处没有相同字符可以删除:

- 将两个字符串进行左对齐。
- 从左到右删除相同位置处的相同字符。
- 从左到右, 如果相同位置处的字母不同, 则删除其中一个字符串中某一个位置处的字符, 使得两个字符串中其余字符左对齐后, 在相同位置处存在相同的字符, 然后继续删除所有相同位置处的相同字符。但如果像NAPE和ANTI这样, 删除任意一个字符串中同一位置的字符都可以得到在相同位置处拥有相同字符, 则删除第二个字符串中的字符。因此, 删除A, 然后将NTI左对齐。

按照下列步骤, 计算ACSL Sameness Factor (ASF) :

- 将上述步骤最终得到的两个字符串左对齐, 计算从第二个字符串中的每个字符到第一个字符串中同一位置的字符的字母位置的差值。如B到D, ASF增加2。D到B, ASF增加-2。
- 如果最终得到的两个字符串对齐后, 两个字符串的长度不一致, 则将对齐后的多余字符的数量添加到ASF中。

示例: ABCDEFT ABXCGBTZFP

ABCDEFT → ~~A~~BCDEFT → CDEF → ~~C~~DEF → DEF → ~~DE~~F → DE
 ABXCGBTZFP → ~~A~~BXCGBTZFP → ~~X~~CGBZFP → ~~C~~GBZFP → GBZFP → ~~GB~~ZFP → GBP

计算ASF: G 到 D = -3 B 到 E = +3 P = +1 (-3 + 3 + 1 = 1)

INPUT (输入) : 有5组输入, 每组输入将包含两个字符串 (由空格分隔), 每个字符串少于200个字符。

OUTPUT (输出) : 对于每组输入, 按上面所述输出ASF。

SAMPLE INPUT
示例输入

BLAMEABLENESSES BLAMELESSNESSES
 MEZZAMINES RAZZMATAZZ
 ABBREVIATIONS ABBREVIATORS
 ABCDEFGHIJKLMNOP ABKCLDZZHQJWWLX
 ABCDEFGHIJKL ABXEWFRRH

SAMPLE OUTPUT:
示例输出

1. -35
 2. -5
 3. -4
 4. -86
 5. -52

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ABCDEFGHIJK ABDCEFGKILKJMN