

## 1. Character Frequencies (hist)

1 sec

20 points

John is preparing a printing press for a publication. He needs to check that he has enough of type pieces—little blocks of cast metal with the shapes of characters on them. To help John, write a program to count the number of times each character appears in his text.

**Input.** The first line of input contains  $N$ , the number of lines in John’s publication ( $1 \leq N \leq 1\,000$ ). The following  $N$  lines contain the text. Each line may consist of up to 100 characters. The text may contain uppercase and lowercase letters, digits, and punctuation marks.

**Output.** Output the frequency table of the characters that appear in the input text. On each line, output one character and its frequency (the number of times it appears in the text), separated by a space. The lines may be listed in any order. Do not count the spaces and line breaks as characters.

Example.	Input	Output
	4	( 1
	A printing press is a mechanical device	) 1
	for applying pressure to an inked surface	, 1
	resting upon a print medium (such as paper	. 1
	or cloth), thereby transferring the ink.	A 1
		a 10
		b 1
		c 6
		d 3
		e 15
		f 3
		g 4
		h 5
		i 12
		k 2
		l 3
		m 3
		n 12
		o 5
		p 9
		r 14
		s 10
		t 8
		u 5
		v 1
		y 2