## Introduction

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| |  | | --- | | problem **0** | | **Letter  Distribution** | | y points | |  |
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The use of letters in the English language is not evenly distributed. For example, the letters E and T are used far more often than the letters X and J. In fact, the same principle holds true for any language in wide use. This same idea of inequitable distribution among a population can also been in in such disparate examples as the number of bids for items for sale on an auction web site, the distribution of wealth among people, and the scores of Code Wars participants. The study of distributions allows mathematicians to understand and work with dynamics and behaviors of large populations. It also helps computer system architects to design efficient systems for use by a large number of people.

We'll explore the idea of inequitable distributions by writing a program to display a histogram of letter occurrences sorted by popularity.

# Sample Input

The input is a body of English text, up to 80 characters per line. The end of input is signaled by a single line with the string “###”.

I have a dream that one day this nation will rise up and live out the true

meaning of its creed: "We hold these truths to be self-evident, that all men

are created equal." I have a dream that my four little children will one day

live in a nation where they will not be judged by the color of their skin but

by the content of their character.

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# Sample Output

The program must count the number of occurrences of each letter of the input and sort the letters by popularity, from most popular to least. Upper case and lower case letters are considered the same for counting purposes. Spaces and punctuation are to be ignored. Two or more letters with equal popularity must be sorted alphabetically. The program must print a horizontal histogram of the sorted letter counts as shown below so that one “\*” is displayed for each occurrence of a letter.

E \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

T \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

A \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

I \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

H \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

L \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

N \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

R \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

O \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

D \*\*\*\*\*\*\*\*\*\*\*\*

U \*\*\*\*\*\*\*\*

C \*\*\*\*\*\*\*

S \*\*\*\*\*\*\*

Y \*\*\*\*\*\*

B \*\*\*\*\*

F \*\*\*\*\*

M \*\*\*\*\*

V \*\*\*\*\*

W \*\*\*\*\*

G \*\*

J \*

K \*

P \*

Q \*

X

Z