#10 Days of Code

Day 10:

An English text needs to be encrypted using the following encryption scheme.
First, the spaces are removed from the text. Let be the length of this text. Then, characters are written into a grid, whose rows and columns have constraints

$\lfloor\sqrt{L}\rfloor \leq row \leq column \leq \lceil\sqrt{L}\rceil$, where $\lfloor x\rfloor$ is floor function and $\lceil x\rceil$ is ceil function

For example, the sentence if man was meant to stay on the ground god would have given us roots after removing spaces is 54 characters long, so it is written in the form of a grid with 7 rows and 8 columns.

ifmanwas

meanttos

tayonthe

groundgo

dwouldha

vegivenu

sroots

1. Ensure that rows x columns >= L

2. If multiple grids satisfy the above conditions, choose the one with the minimum area, i.e. .

The encoded message is obtained by displaying the characters in a column, inserting a space, and then displaying the next column and inserting a space, and so on. For example, the encoded message for the above rectangle is:

imtgdvs fearwer mayoogo anouuio ntnnlvt wttddes aohghn sseoau

You will be given a message in English with no spaces between the words. The maximum message length can be 81 characters. Print the encoded message.

Sample Input:

haveaniceday

Sample Output:

hae and via ecy