THE CRYTPO SQUARE PROBLEM

You are asked to implement the classic method for composing secret messages called a square code.

Given an English text, output the encoded version of that text.

First, the input is normalized: the spaces and punctuation are removed from the English text and the message is downcased.

Then, the normalized characters are broken into rows. These rows can be regarded as forming a rectangle when printed with intervening newlines.

For example, the sentence

```
"If man was meant to stay on the ground, god would have given us roots."
```

is normalized to:

```
"ifmanwasmeanttostayonthegroundgodwouldhavegivenusroots"
```

The plaintext should be organized in to a rectangle. The size of the rectangle (`r x c`) should be decided by the length of the message, such that `c >= r` and `c - r <= 1`, where `c` is the number of columns and `r` is the number of rows.

Our normalized text is 54 characters long, dictating a rectangle with `c = 8` and `r = 7`:

```
"ifmanwas"
"meanttos"
"tayonthe"
"groundgo"
"dwouldha"
"vegivenu"
"sroots  "
```

The coded message is obtained by reading down the columns going left to right.

The message above is coded as:

```
"imtgdvsfearwermayoogoanouuiontnnlvtwttddesaohghnsseoau"
```

Output the encoded text in chunks that fill perfect rectangles `(r X c)`, with `c` chunks of `r` length, separated by spaces. For phrases that are `n` characters short of the perfect rectangle, pad each of the last `n` chunks with a single trailing space.

```
"imtgdvs fearwer mayoogo anouuio ntnnlvt wttddes aohghn  sseoau "
```

Notice that were we to stack these, we could visually decode the ciphertext back in to the original message:

```
"imtgdvs"
"fearwer"
"mayoogo"
"anouuio"
"ntnnlvt"
"wttddes"
"aohghn "
"sseoau "
```

Input (crypto.txt)

```
If man was meant to stay on the ground, god would have given us roots.
```

Output

```
"imtgdvs fearwer mayoogo anouuio ntnnlvt wttddes aohghn  sseoau "
```