# Cute Animals

Village life is not for everyone! But young, motivated, work-from-home C++ developers love the recreational, calm, and clean environment where they can manage working from home for 12 hours per day!

You just moved in, and you are still getting used to the village noises. They come at random times, but you suspect there’s a pattern! So, you create a program to record the time of each noise for further evaluation.

Unfortunately, due to a severe consumption of robust and homemade rakia last night, you overwrote one or more of your core files, and you must recreate it in the morning. Fortunately, all the rest, together with your testing friend “Judge”, is here to help you.

Your task is to restore the damaged skeleton of your program to its working functionality.

### Input

The input format is “**+TTTT noiseword**”, where:

* “**+TTTT**” is the time of the noise, calculated in minutes from 03:00 am
* “**noiseword**” is the noise, which your program heard at that time
* There is one specific “**noiseword**”, “**TheEnd**” (**case sensitive!**), which tells the program that the input flow ends.

### Output

* Information after each noise: how many, and with what frequency (how many minutes between each, in average, as int)
* After **TheEnd**: statistical information about all noises, as per the example below.
  + If there were no noises at all, the output should be “**No noises.**”

### Restrictions

Time limit: 250ms (0.255s)  
Memory limit: 16 MB

### Example 1:

|  |  |
| --- | --- |
| **Input** | **Output** |
| +0000 cuckoo  +0000 cuckoo  +0006 cuckoo  +0020 cock-a-doodle-doo  +0025 cock-a-doodle-doo  +0030 cock-a-doodle-doo  +0066 cuckoo  +0090 baaaah  +0090 cock-a-doodle-doo  +0090 baaaah  +0090 baaaah  +0095 squeak  +0100 TheEnd | cuckoo: 1  cuckoo: 2, each minute  cuckoo: 3, each 2 minutes  cock-a-doodle-doo: 1  cock-a-doodle-doo: 2, each 2 minutes  cock-a-doodle-doo: 3, each 3 minutes  cuckoo: 4, each 16 minutes  baaaah: 1  cock-a-doodle-doo: 4, each 17 minutes  baaaah: 2, each minute  baaaah: 3, each minute  squeak: 1  ----  baaaah: 3, from 90 till 90, each minute  cock-a-doodle-doo: 4, from 20 till 90, each 17 minutes  cuckoo: 4, from 0 till 66, each 16 minutes  squeak: 1 at 95 |

### Example 2:

|  |  |
| --- | --- |
| **Input** | **Output** |
| +0000 THEEND | ----  No noises. |