**Coordinates Finder**

Write a program that **decrypts messages**, which containinformationaboutcoordinates. You are looking for **names of peaks** in the Himalayas and their [geohash](https://en.wikipedia.org/wiki/Geohash) coordinates. Keep reading lines until you receive the "**Last note**" message.

Here is your **cipher**:

* **Name of the peak**
  + It is consisted of **letters (upper and lower), numbers** and some of the following characters between its letters – "**!**" "**@**" "**#**" "**$**" "**?**". Example for valid names: “!@K?#2!#” (K2).
* **The length of the geohashcode**
  + Begins **after** the "**=**" (equals) sign and is consisted only of numbers.
* **The geohash code**
  + Begins after these symbols – "**<<**", may contain anything and the message always ends with it.

**Examples for valid input:**

"!Ma$$ka!lu!@=9<<ghtucjdhs" – all the components are there – **name of the peek**, **length** of the geohashcode and a **geohashcode**.

"!@Eve?#rest!#=7<<vbnfhfg"

**Examples of invalid input:**

"anna@fg<<jhsd@bx!=4" – **their order is wrong**. The name should be first, the length after and the code last.

"#n...s!n-<<tyuhgf4" – **the length is missing** and the **name contains dots.**

**"**Nan$ga!Parbat=8<<gh2tn – **the** **length** of the geohash code doesn't match the given number.

The **geohash code** you are looking for is with **length** **exactly** as much as the **given length** in the message and the information must be in the **exact given order**, otherwise it is considered **invalid**. If you find it, print the following message:

"**Coordinates found! {nameOfMountain} -> {geohashcode}**"

Otherwise print: “**Nothing found!**” after every **invalid** message.

## Input / Constraints

* You will be receiving strings until you get the “**Last note**” message.

## Output

* If you find the right coordinates, print: "**Coordinates found! {nameOfMountain} -> {geohashcode}**".
* If the message is invalid, print: "**Nothing found!**".

## Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| !@Ma?na?sl!u@=7<<tv58ycb4845  E!ve?rest=.6<<tuvz26  !K@2.,##$=4<<tvnd  !Shiha@pan@gma##9<<tgfgegu67  !###Anna@pur@na##=16<<tv5dekdz8x11ddkc  Last note | Nothing found!  Nothing found!  Nothing found!  Nothing found!  Coordinates found! Annapurna -> tv5dekdz8x11ddkc |
| **Comments** | |
| The first line is invalid, because the length – **7**, **doesn't** **match** the **length** of the **code**.  The second line is invalid, because the **length** should be consisted **only** of **numbers**.  The third line is invalid, because the name contains **symbols** that are **not** allowed – **".", ",".**  The forth line is invalid, because the **"="** sign before the length is **missing**.  The fifth line is valid, so we print the appropriate message. | |
|  | |
| Ka?!#nch@@en@ju##nga@=3<<thfbghvn  =9Cho?@#Oyu<<thvb7ydht  Nan??ga#Par!ba!t?=16<<twm03q2rx5hpmyr6  Dhau??la#gi@ri?!#=3<<bvnfhrtiuy  Last note | Nothing found!  Nothing found!  Coordinates found! NangaParbat -> twm03q2rx5hpmyr6  Nothing found! |