

# Problem.1 Arriving in Kathmandu

Your friend is a mountaineer and he needs your help. Your first task is to find him, so you went to Kathmandu and found some notes at his quarters.



Write a program that **decrypts messages**, which contain information about coordinates. You are looking for **names of peaks** in the Himalayas and their [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?s1!u@=7<<tv58ycb4845   | Nothing found!                                   |
| E!ve?rest=.6<<tuvz26   | Nothing found!                                   |
| !K@2.,##\$=4<<tvnd   | Nothing found!                                   |
| !Shiha@pan@gma##9<<tgfgegu67   | Nothing found!                                   |
| !###Anna@pur@na##=16<<tv5dekdz8x11ddkc   | Coordinates found! Annapurna -> tv5dekdz8x11ddkc |
| Last note  |  |
| Comments   |  |
| <p>The first line is invalid, because the length – <b>7</b>, <b>doesn't match</b> the <b>length</b> of the <b>code</b>.</p> <p>The second line is invalid, because the <b>length</b> should be consisted <b>only</b> of <b>numbers</b>.</p> <p>The third line is invalid, because the name contains <b>symbols</b> that are <b>not</b> allowed – <b>"."</b>, <b>"."</b>.</p> <p>The forth line is invalid, because the <b>"="</b> sign before the length is <b>missing</b>.</p> <p>The fifth line is valid, so we print the appropriate message.</p> |  |
| Ka?!#nch@@en@ju##nga@=3<<thfbghvn  | Nothing found!                                   |
| =9Cho?@#Oyu<<thvb7ydht   | Nothing found!                                   |
| Nan??ga#Par!ba!t?=16<<twm03q2rx5hpmyr6   | Coordinates found! NangaParbat ->                |
| Dhau??la#gi@ri?!#=3<<bvnfhrtiuy  | twm03q2rx5hpmyr6                                 |
| Last note  | Nothing found!                                   |