**Problem 1. The Isle of Man TT Race**

*This year’s* [*Isle of Man TT Race*](https://en.wikipedia.org/wiki/Isle_of_Man_TT) *is going to be around Douglas and your job is to find the exact coordinates for it and the names of the racers. Every racer starts from a different place. You’re going to receive the coordinates in the form of a* [*geohash*](https://en.wikipedia.org/wiki/Geohash) *code.*



Write a program that decrypts messages. You’re going to receive a few notes that contain the following information:

* **Name of racer**
  + Consists only of letters. It is surrounded from the both sides by any of the following symbols – **"#, $, %, \*, &". Both symbols** – in the **beginning** and at the **end** of the name should **match**.
* **Length of geohashcode**
  + Begins after the **"="** sign and it is consisted only of numbers.
* **Encrypted geohash code**
  + Begins after these symbols - **“!!”**. It may contain anything and the message always ends with it.

**Examples for valid input:**

#SteveHislop#=16!!tv5dekdz8x11ddkc  
**Examples of invalid input:**

%GiacomoAgostini$=7!!tv58ycb – The length is the same, but the name is not surrounded by **matching** **signs**.

$GeoffDuke$=6!!tuvz26n35dhe4w4 – The length doesn't **match** the **lengh** of the code.

&JoeyDunlop&!!tvndjef67t=14 – The length should be **before** the code.

The information must be in the **given order**, otherwise it is considered **invalid**. The **geohash code** you are looking for is with length **exactly** **as much as the given length in the message**. To **decrypt** the code you need to **increase** the value of **each symbol** from the geohashcode with the **given length**. If you find a **match**, you have to **print** the following message:

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

and stop the program. Otherwise, after every **invalid** message print:

"**Nothing found!**"

## Input / Constraints

* You will be receiving strings.
* There will always be a valid message.

## Output

* If you find the right coordinates, print: "Coordinates found! {nameOfRacer} -> {geohashcode}".
* Otherwise, print: "Nothing found!".

## Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| %GiacomoAgostini%=7!!hbqw  &GeoffDuke\*=6!!vjh]zi  JoeyDunlop=10!!lkd,rwazdr  Mike??Hailwood=5!![pliu  #SteveHislop#=16!!df%TU[Tj(h!!TT[S | Nothing found!  Nothing found!  Nothing found!  Nothing found!  Coordinates found! SteveHislop -> tv5dekdz8x11ddkc |
| **Comments** | |
| The first line matches, but the **length** of the code **doesn't match** the given number, so we print "Nothing found!"  The second line begins with **"&"**, but ends with **"\*"**, so we print "Nothing found!"  The third line is not valid because the **name is not surrounded** with one of the **allowed** **symbols**.  The forth line is not a match, because the name doesn't contain **only** letters.  The fifth line is a match and the length is equal to the given number - 16, so we increase each of the symbols from the code with 16 and print the message in the appropriate format. | |
|  | |
| Ian6Hutchinson=7!!\(58ycb4  #MikeHailwood#!!'gfzxgu6768=11  slop%16!!plkdek/.8x11ddkc  $Steve$=9Hhffjh  \*DavMolyneux\*=15!!efgk#'\_$&UYV%h%  RichardQ^uayle=16!!fr5de5kd | Nothing found!  Nothing found!  Nothing found!  Coordinates found! DaveMolyneux -> tuvz26n35dhe4w4 |

