Problem 16 – Parachute

You find yourself in training for becoming the **best parachute jumper** in the world. At the beginning of the training you need to understand how **gravity** and **wind** work. You are given all the data from previous jumps of your colleagues. Your task is to determine how the **jumper** will **finish** his jump and **where** he will **land** exactly, based on the gravity and wind parameters.

You are given a layout, consisting of several input strings, representing a matrix. The **jumper** can be **anywhere** in the matrix and is denoted by the **"o" symbol**. You need to determine the **movement** of the jumper in **iterations**. On each iteration, the jumper first moves **one line down**, pulled by **gravity**. Additionally, the jumper moves **sideways** by the **wind** on the **current** line.

- The **">" symbol** means the wind is moving the jumper **one position** to the **right**.
- The **"<" symbol** means the wind is moving the jumper **one position** to the **left**.

The **total direction** of the wind on a single line may **stack** (e.g. "**>>>**" moves the jumper 3 positions to the right; "**><<**" moves the jumper 1 position to the left).
See the examples to better understand the motion of the jumper.
The jumper can move only through **air** (the **"-", ">" and "<" symbols**). When the jumper hits the **ground**, **water** or a **cliff**, the jump is **finished** and you need to **print the outcome** of the jump.
When checking for a collision, you need to take into account only the destination cell in the matrix (do not check the path the jumper took to get there).

Input

- The input will be read from the console.
- It consists of strings, representing the rows of the matrix. The **symbols** are **not separated** by anything.
- The input ends with the keyword "**END**".
- The input data will always be valid and in the format described.

Output

The output consists of two lines. The first line holds a string**. There are 3 possible outcome messages:**

- If you have landed on the **ground** ("_" symbol), you are well and alive: **"Landed on the ground like a boss!"**
- If you have landed in the **water** ("~" symbol), you have drowned: "**Drowned in the water like a cat!"**
- If you have landed on **a cliff** ("/", "\" or "|" symbol), you have died: "**Got smacked on the rock like a dog!**

The second line holds the **position** (the **row** and **col**) of your landing.

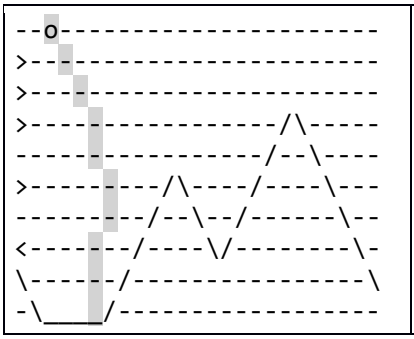
Constraints

- The **row** and **col** of the matrix will be in the range **[0 … 20]**.
- The jumper will never fly off the map.
- Time limit: 0.1 sec. Memory limit: 16 MB.

Examples

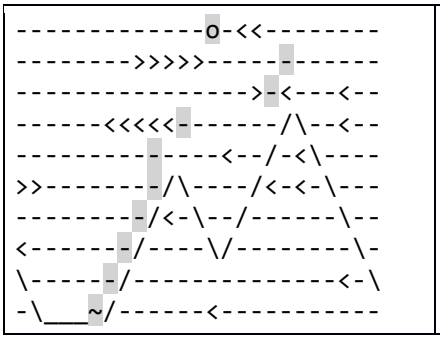
Input	Output

Input	Output



```
--o----------------------
>--|----------------------
>---|--------------------
>-----|-------------/\-----
------|-----------/--\----
>---------|---/\----/----\---
---------|--/--\--/------\--
<--------|-/----\/--------\-
\--------|/----------------\
-\_____/-------------------
```

Landed on the ground like a boss!
9 5



```
-------------o-<<--------
--------->>>>>------|------
----------------->|-<---<--
------<<<<<|------/\--<--
---------|----<--/-<\----
>>--------|/\----/<-<-\---
---------|/<-\--/------\--
<--------|/----\/--------\-
\--------|/--------------<-\
-\___~/------<-----------
```

Drowned in the water like a cat!
9 5