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:

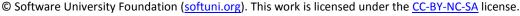
- If you have landed on the ground ("_" symbol), you are well and alive: "Landed on the ground like a boss!"
- If you have landed in the water ("~" symbol), you have drowned: "Drowned in the water like a cat!"
- If you have landed on a cliff ("/", "\" or "|" symbol), you have died: "Got smacked on the 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
>0	Landed on the ground like a boss! 9 5

Input	Output
	Drowned in the water like a cat! 9 5















