

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
<pre>--o----- >----- >----- >-----/\----- >-----/\-----/\----- >-----/\-----/\----- <-----/\-----\----- \-----/\-----\----- -\~/-----</pre>	<p>Landed on the ground like a boss! 9 5</p>	<pre>-----o-<<----- ----->>>>----- -----><----- -----<<<<<<-----/\----- -----<-----/\----- >>-----/\-----/<<<<----- -----<-----/\-----/\----- <-----/\-----\-----\----- \-----/\-----<----- -\~/-----<-----</pre>	<p>Drowned in the water like a cat! 9 5</p>