

02. The Squirrel



An intern from a big company must solve the game - "The squirrel". He doesn't have enough experience, so he needs your help.

Here are the rules of the game:

The game starts with 0 collected hazelnuts. **Your goal is to collect all of them.**

You get as input the size of the field, which will be always a **square shape**. After that, you will receive the directions in which the squirrel can move – "**left**", "**right**", "**down**", and "**up**" in a sequence, each value separated by a comma and a space (", "). On the next rows, you will receive the field.

Possible characters in the field:

- **s** - represents the squirrel's position.
- **h** – represents a hazelnut.
- ***** – the asterisk represents an empty position.
- **t** – represents a trap.

The squirrel starts from the **s - position**.

- If the squirrel steps on a hazelnut, you have to **increase them by 1**. You have to track the number of hazelnuts because you may need them. The field should be marked with an **asterisk (*)**.
 - If the squirrel **collects all 3 hazelnuts**, the game ends and the **squirrel stays in its last position**.
- **Asterisk ("*") does nothing**, so nothing happens if the squirrel **steps on** it.
- If it steps on a trap, **the game ends and the squirrel disappears from the screen**.
- If the squirrel moves **out** of the field, **the game ends and disappears from the screen**.

After all commands you will have 4 possible results:

- **You win if the squirrel collects all of the hazelnuts.**
- **The squirrel has collected less than 3 hazelnuts.**
- **The squirrel steps on a trap.**
- **The squirrel moves out of the field.**

Input

- On the first line, you will receive the length of the field – an integer number in the range [3, 5].
- On the second line, you will receive the commands to move the squirrel – an array of strings separated by ", ".
- In the next N lines, you will receive the values for every row.

Output

- On the first line:
 - If the squirrel goes out of the field - "The squirrel is out of the field."
 - If the squirrel steps on a trap - "Unfortunately, the squirrel stepped on a trap..."
 - If the squirrel hasn't collected all hazelnuts - "There are more hazelnuts to collect."
 - If the squirrel has collected all hazelnuts - "Good job! You have collected all hazelnuts!"
- On the second line, print the **number of collected hazelnuts** - "Hazelnuts collected: {hazelnuts_count}"

Constraints

- The size of the field will be between [3,5].
- There could be **one** or **no trap** on the field.
- There will always be **3 hazelnuts on the field**.

Examples

Input	Output	Comments
5 left, left, up, right, up, up **h** t**** *h*** *h*s* *****	Good job! You have collected all hazelnuts! Hazelnuts collected: 3	The squirrel moves 2 times to the left and collects its first hazelnut. After that collect the second one. Finally, with the last "up" command, the squirrel collects its final hazelnut.
4 down, down, right, right *s*h ***h ***t h***	Unfortunately, the squirrel stepped on a trap... Hazelnuts collected: 0	
4 down, down, right, right h*** ***h *s*t	The squirrel is out of the field. Hazelnuts collected: 0	

**h*		
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