# Snake

*Everybody remembers the old snake game. Now it is time to create your own.*

You will be given an integer **n** for the **size** of the snake territory with **square** shape. On the next **n** lines, you will receive the **rows** of the territory. The snake will be placed on a **random position**, marked with the letter '**S**'. On random positions there will be food, marked with **'\*'**. There might also be a **lair** on the territory. The lair has two burrows. They are **marked** with the **letter** - '**B**'. **All of the empty positions** will be marked with **'-'**.

Each turn, you will be given **command** for the **snake’s movement**. When the snake moves it leaves a trail marked with **'.'**

Move commands will be: "**up**", "**down**", "**left**", "**right**".

If the snake **moves** to a **food**, it eats the food and increases the food quantity with one.

If it goes inside of a **burrow**, it **goes out** on the **position** of the **other burrow** and then **both** burrows **disappear**. If the snake **goes out** of its territory, it loses, can't return back and the program ends. The snake needs **at least** **10 food quantity** to win.

When **the snake** has gone outside of its territory **or has eaten enough food,** the game **ends**.

### Input

* On the first line, you are given the integer **n** – the size of the **square** matrix.
* The **next n lines** holds the values for every **row**.
* On each of the next lines you will get a move command.

### Output

* On the first line:
  + If the snake goes out of its territory, print: "**Game over!**"
  + If the snake eat enough food, print: "**You won! You fed the snake.**"
* On the second line print all food eaten: "**Food eaten: {food quantity}**"
* In the end print the matrix.

### Constraints

* The size of the **square** matrix will be between **[2…10].**
* There will **always** be **0** or **2** burrows, marked with - '**B**'.
* The snake position will be marked with '**S**'.
* The snake will **always** either go outside its territory or eat enough food.
* There will be no case in which the snake will go through itself.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| 6  -----S  ----B-  ------  ------  --B---  --\*---  left  down  down  down  left | Game over!  Food eaten: 1  ----..  ----.-  ------  ------  --.---  --.--- | 1) left 2) down 3) down 5) down  ----S. ----.. ----.. ----..  ----B- ----.- ----.- ----.-  ------ ------ ------ ------  ------ ------ ------ ------  --B--- --S--- --.--- --.---  --\*--- --\*--- --S--- --.---  3) eat the food: '\*' (5, 2)  5) the snake goes out from its territory and the program ends |
| 7  --\*\*\*S-  --\*----  --\*\*\*--  ---\*\*--  ---\*---  ---\*---  ---\*---  left  left  left  down  down  right  right  down  left  down | You won! You fed the snake.  Food eaten: 10  --....-  --.----  --...--  ---..--  ---S---  ---\*---  ---\*--- |  |