# Bee

You will be given an integer **n** for the **size** of the bee territory with **square** shape.

On the next **n** lines, you will receive the **rows** of the territory.

The bee will be placed on a **random position**, marked with the letter '**B**'.

On random positions there will be flowers, marked with **'f'**.

There may also be а **bonus** on the territory. There will always be **only one bonus**. It will be **marked** with the **letter** - '**O**'.

**All of the empty positions** will be marked with **'.'**.

Each turn, you will be given a **command** for the **bee’s movement**.

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

If the bee **moves** to a **flower**, it pollinates the flower and increases the pollinated flowers with one.

If it goes to a **bonus**, the bee gets a bonus one move forward and then the bonus **disappears**.

If the bee **goes out** she can't return back and the program ends.

If the bee receives the "**End**" command the program ends.

The bee needs **at least** **5 pollinated flowers**.

### Input

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

### Output

* On the **first line**:
  + If the bee goes out of its territory print: **"The bee got lost!"**
* On the **second line**:
  + If the bee couldn’t pollinate enough flowers, print: **"The bee couldn't pollinate the flowers, she needed {needed} flowers more"**
  + If the bee successfully pollinated enough flowers, print: **"Great job, the bee managed to pollinate {polinationed flowers} flowers!"**
* In the end **print the matrix**.

### Constraints

* The size of the **square** matrix will be between **[2…10].**
* There will **always** be **0** or **1** bonus, marked with - '**O**'.
* The bee position will be marked with '**B**'.
* There won't be a case where a bonus moves the bee out of its territory.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| 5  Bff..  ..O..  f.f.f  .....  Fffff  Right  right  down  left  left  down  down  right  down | The bee got lost!  Great job, the bee managed to pollinate 6 flowers!  .....  .....  ....f  .....  ..fff | 1) right 2) right 3) down 5) left  .Bf.. ..B.. ..... .....  ..O.. ..O.. ..... .....  f.f.f f.f.f f.B.f fB..f  ..... ..... ..... .....  fffff fffff fffff fffff  …  2) pollinate a flower: 'f' (0, 1)  3) step on a bonus: 'O' (1, 2) and make one more step down to: 'f' (2, 2)  4) the bee is on (4, 1), the next command she receive is down and she goes out of the field and the program ends. |
| 4  ....  .O..  ff..  f.B.  left  left  up  right  up  End | The bee couldn't pollinate the flowers, she needed 2 flowers more  .B..  ....  ....  .... |  |