# Mouse and cheese



You will be given an integer **n** for the **size** of the mouse territory with a **square** shape. On the next **n** lines, you will receive the **rows** of the territory. The mouse will be placed in a **random position**, marked with the letter '**M**'. On random positions, there will be cheese, marked with **'c'**. There may also be a **bonus** on the territory. There will always be only one bonus. It will be **marked** with the **letter** - '**B**'. **All of the empty positions** will be marked with **'-'**.

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

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

If the mouse **moves** to **cheese**, it eats the cheese and increases the cheese it has eaten by one.

If it goes to a **bonus**, the mouse gets a bonus one move forward and then the bonus **disappears**. If the mouse **goes out** she can't return and the program ends. If the mouse receives the "**end**" command the program ends. The mouse needs **at least 5 eaten cheeses**.

### 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 the "**end**" command, you will receive a move command.

### Output

* On the first line:
  + If the mouse goes out of its territory print: **"Where is the mouse?"**.
* On the second line:
  + If the mouse couldn’t eat enough cheeses print: **"The mouse couldn't eat the cheeses, she needed {needed} cheeses more."**.
  + If the mouse has successfully eaten enough cheeses print: **"Great job, the mouse is fed {eaten cheeses} cheeses!"**.
* At the end print the matrix.

### Constraints

* The size of the **square** matrix will be between **[2…10]**.
* There will always be only one bonus, marked with '**B**.
* The mouse position will be marked with '**M**'.
* There won't be a case where a bonus moves the mouse out of its territory.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| 3  M--  ccc  ---  right  right  down  down  left  end | The mouse couldn't eat the cheeses, she needed 4 cheeses more.  ---  cc-  -M- | 1) right 2) right 3) down 5) down  -M- --M --- ---  ccc ccc ccM cc-  --- --- --- --M    6) left  ---  cc-  -M- |
| 5  Mcc--  --B--  c-c-c  -----  ccccc  right  down  left  down  right  down  left  left  end | Where is the mouse?  The mouse couldn't eat the cheeses, she needed 3 cheeses more.  --c--  --B--  --c-c  -----  ccccc |  |