# Armory

*You have forged many swords, so now you start selling them. There are lots of customers who want to buy your blades, but you do not want to bargain for every single sword and decide to sell them to the king. The king sends an army officer to pick swords for his army. Your armory is huge, so you need to guide the army officer though.*

You will be given an integer **n** for the **size** of the armory with a **square** shape. On the next **n** lines, you will receive the **rows** of the armory. The army officer will be placed in a **random position**, marked with the letter '**A**'. On random positions, there will be **swords**, marked with a **single digit (the price of the sword)**. There **may** also be **mirrors**, the **count** will be either **0** or **2** and they are **marked** with the **letter** - '**M**'. **All of the empty positions** will be marked with **'-'**.

Each turn, you will tell the army officer which direction he should move. Move commands will be: "**up**", "**down**", "**left**", "**right**". If the army officer **moves** to a **sword**, he **buys the sword** **for a price** **equal** to the **digit** **there** and the sword **disappears**. If the army officer moves to a **mirror**, he teleports on the **position** of the **other mirror,** and then **both** mirrors **disappear**. If you guide the army officer **out of the** armory, he leaves with the swords that he has bought. In advance, you negotiate with the king, that he'll buy **at least 65 gold coins worth of blades.**

**The program ends when the army officer buys blades for at least 65 gold coins, or you guide him out of the armory.**

### Input

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

### Output

* On the first line:
  + If the army officer leaves the armory, print: "**I do not need more swords!**"
  + If the army officer fulfills the initial deal, print: "**Very nice swords, I will come back for more!**"
* On the second line print the profit you’ve made: "**The king paid {amount} gold coins.**"
* At the end print the final state of the matrix (armory).

### Constraints

* The size of the **square** matrix (armory) will be between **[2…10].**
* There will **always** be **0** or **2** mirrors, marked with the **letter** - '**M**'.
* The army officer’s position will be marked as '**A**'.
* There will be always two output scenarios: the army officer leaves or bays swords worth at least **65 gold** coins.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| 4  A9--  -M--  ----  M---  right  down  left | I do not need more swords!  The king paid 9 gold coins.  ----  ----  ----  ---- | The first command is "**right**". The army officer moves to **a sword, and buys it.**  -А--  -M--  ----  M---  **Nex command** is "**down**" the army officer steps on the mirror and teleports to the bottom left corner of the armory.  ----  ----  ----  А---  The last command is "**left**". The army officer leaves the armory. |
| 6  A99---  99----  99996-  ---9--  ---9--  -6-6--  right  right  down  left  left  down  right  right  right | Very nice swords, I will come back for more!  The king paid 72 gold coins.  ------  ------  ---A6-  ---9--  ---9--  -6-6-- | Here we have **no** mirrors and lots of swords in the armory.  The army officer buys enough swords to fulfill the deal.  All swords which were sold disappear and we can see where the army officer is located when the deal is fulfilled (2, 3). |