# 02. Clear Skies

# Flying war plane Vector illustration of a flying war plane fighter jets cartoon stock illustrations

You will be given an integer **n** for the size of the **protected airspace** (square shape). On the next lines, you will receive the rows of the **airspace**. The jetfighter will start at a **random** position, marked with the letter '**J**'. The jetfighter surveys the surrounding area for enemy aircraft.

The jetfighter initially has **300** units of armour. When it receives a direction, it moves **one position towards the given direction**.

On each turn, you will be guiding the jetfighter and giving it the **direction**, in which it should move. The commands will be "**up**", "**down**", "**left**" and "**right**".

* If a position with '**-**' (dash) is reached, it means that the field is empty and the jetfighter awaits its next direction.
* If it encounters an **enemy aircraft** marked with **'E'** battle begins. The jetfighter **shoots** **down** the **enemy** plane (the position of the **destroyed** enemy plane will be **marked** with '**-**' (dash)) and your plane takes damage – its armour loses **100** units. It can **withstand two hits** from enemy planes. The **third time** the jetfighter **is hit** by an **enemy** plane, it **crashes** and the **mission** **fails.** The following message should be printed on the console: "**Mission failed, your jetfighter was shot down! Last coordinates [{row}, {col}]!**"

**Note** that the **last** enemy plane **has no armament** and **does no damage** to your jetfighter.

* If a position marked with **'R'** is reached your plane is **repaired** and restores **300** units of its armor. The position **must** be marked with '**-**' (dash). In case your plane has not **taken** any **damage** and lands on a field marked with **'R'** nothing happens the field **just** needs to be '**-**' (dash)-**marked** again.
* If your jetfighter **succeeded** in **shooting** down **all** enemy planes the following message should be printed on the console: "**Mission accomplished, you neutralized the aerial threat!**"

**The program will end when the battle ends (аll enemy planes are shot down or your jetfighter armor becomes 0 /zero/).**

### Input

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

### Output

* If all enemy planes are shot down, print:
* "**Mission accomplished, you neutralized the aerial threat!**"
* If your jetfighter is hit by an enemy plane three times, print:
* "**Mission failed, your jetfighter was shot down! Last coordinates [{row}, {col}]!**".
* At the end, print the **final state** of the matrix (**airspace**) with the **last known position** of your jetfighter on it.

### Constraints

* The size of the **square** matrix (**airspace**) will be between **[4…10].**
* The jetfighter starting position will always be marked with '**J**'.
* There will be always **four** enemy aircraft - fields marked with '**E**'.
* There will be always a random count **(1…5)** fields marked with **'R' (repair).**
* The commands given will direct the jetfighter only within the limits of the matrix **(airspace)**.
* There will be always two output scenarios - either the enemy shoots down your plane or your plane shoots down all the enemy planes.
* You will always receive enough commands to end the battle.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 5  -R---  -J--E  -E---  --E-E  -R---  up  down  down  down  right  right  right | Mission failed, your jetfighter was shot down! Last coordinates [3, 4]!  -----  ----E  -----  ----J  -R--- |
| 4  -R--  -JEE  -E-R  --E-  right  right  down  left  left  down  right | Mission accomplished, you neutralized the aerial threat!  -R--  ----  ----  --J- |
| 5  -J--E  -R--E  -E--R  --R-E  -R---  right  right  right  down  down  down  left  left  left  up | Mission accomplished, you neutralized the aerial threat!  -----  -R---  -J---  -----  -R--- |