

Problem 2 - Snake

One of the candidates-intern must solve the task - "Snake". He must write a Java code that calculates wheater the snake wins or loses the game.

Here are the rules of the game:

The game starts with a **snake length of 1**.

We get as input **the size** of the **screen** in which our snake moves. The screen is **always a square**. After that we receive the commands wich represent the directions in wich the snake should move. The snake **starts** from **s**-position. The commands will be: **left/right/up/down**. If the snake reaches the side edge of the screen (left or right), it goes to the **opposite side of the same row**. If the snake reaches the top/bottom edge of the screen it goes on the **opposite site of the same column** . The possible characters that may appear on the screen are:

- * – that is a regular square; it does nothing
- e – represents an enemy.
- f – this is the food
- s - the place where the **game starts**

Each time when you eat a piece of food your **length increases by one**. Keep thrack of the length, because **in case you win you have to print it**. If you **step on an enemy the game is over (the snake stops moving)** and you have to print the output as shown in the output section. After executing all of the commands there are 3 possible outcomes:

- you have eaten all the food and you win
- you get killed by an enemy
- there is still some food to be eaten

Print the corresponding output depending on the case.

Input

- **Length** of the screen side – an integer number.
- **Commands to move** the snake – an array of strings separated by “, ”.

Output

- There are three types of output:
 - If all of the food is eaten print the following output: **“You win! Final snake length is {length}”**
 - If there are no left commands and there is still some food to be eaten: **“You lose! There is still {left food} food to be eaten.”**
 - If you step on the enemy the game is over and you print **“You lose! Killed by an enemy!”**

Constraints

- The **input numbers** will be a 32-bit integer in the range [0 ... 2 147 483 647].
- Allowed working time for your program: 0.1 seconds.
- Allowed memory: 16 MB.

Examples

Input	Output	Comments
5 up, right, right, right, up * * e * * * * * f * * f * * * S * * * * * * e * *	You win! Final snake length is 3	After executing all of the commands the snake has eaten all of the food and it is still alive.
4 right, right, right, right, right, down, right * S * * * * e * * f * f * * * f	You lose! Killed by an enemy!	The snake moves 2 times to the right, then it goes off screen and appears on left side. Then it makes 2 more moves to the right, it goes down, steps on an enemy and the game is over.
6 down, left, left, down, right, right, right, right, right * * * * S * * e f * * * f * * * * * * * * f e * * e * * * * * * * * *	You lose! There is still 1 food to be eaten.	The snake survived but there is still 1 piece of food that the snake could not eat.