

# The broken 3D printer

The *Anything Is Openly Created* (AIOC) 3D printing company 3D prints models people send to them, for a cost of 10c/g (PLA). The company uses .3Dcode files to process their prints. A 3Dcode file consists of a series of characters: F, B, L, R, U, 0 or 1. The extruder of a 3D printer starts in the middle of a build plate, 1mm above the build plate, turned off. The printer reads the characters in order, then does the corresponding thing:

F: Move forwards.

B: Move back.

L: Move left.

R: Move right.

U: Move up.

0: Turn off extruder.

1: Turn on extruder.

After doing the action, if the extruder is turned on then a 1mm\*1mm\*1mm cube of PLA appears just below the extruder. If there is already something there, the 3D printer stops and outputs FAIL. If there is anything directly below, it becomes hardened PLA. If there is nothing below, it falls down and becomes “useless plastic” (but still supports new PLA placed above). If, at any time, the extruder goes outside the build plate, the print ends and the printer outputs FAIL.

## **Input: <standard input>**

The first line of input will consist of a number N and a number M, representing the size of the build plate and the length of the program. You are guaranteed that N will always be odd.

The next line will be M characters long, representing the program that the 3D printer runs.

## **Output: <standard output>**

The output will be one of the following:

“FAIL” - indicating that the program failed.

“SUCCESS” - indicating that no PLA became useless plastic.

X – where X is the number of useless plastic blocks.

### **Sample Input 1:**

5 15

1FFRBBRFF0ULB10

### **Sample Output 1:**

SUCCESS

### **Sample Input 2:**

3 11

1F0BUR1FBF0

### **Sample Output 2:**

2

### **Sample Input 3:**

3 4

1FB0

### **Sample Output 3:**

FAIL

## **Constraints:**

$1 \leq N < 1,000$

$2 \leq M \leq 1,000,000$

The program will always end with a 0.