C - LRUD Instructions 2

Editorial (/contests/abc291/tasks/abc291_c/editorial)

Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 300 points

Problem Statement

Takahashi is on a two-dimensional plane. Starting from the origin, he made N moves.

The N moves are represented by a string of length N as described below:

- Takahashi's coordinates after the i-th move are:
  - $(x+1, y)$ if the i-th character of S is R;
  - $(x-1, y)$ if the i-th character of S is L;
  - $(x, y+1)$ if the i-th character of S is U; and
  - $(x, y-1)$ if the i-th character of S is D,

  where (x, y) is his coordinates before the move.

Determine if Takahashi visited the same coordinates multiple times in the course of the N moves (including the starting and ending points).

Constraints

- $1 \leq N \leq 2 \times 10^5$
- N is an integer.

- S is a string of length N consisting of R, L, U, and D.

Input

The input is given from Standard Input in the following format:

N
S

Output

Print Yes if Takahashi visited the same coordinates multiple times in the course of the N moves; print No otherwise.

Sample Input 1 Copy

```
5
RLURU
```

Sample Output 1 Copy

```
Yes
```

Takahashi's coordinates change as follows: $(0, 0) \to (1, 0) \to (0, 0) \to (0, 1) \to (1, 1) \to (1, 2)$.

Sample Input 2 Copy

```
20
URDDLLUUURRRDDDDLLLL
```

Sample Output 2 Copy

```
No
```

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