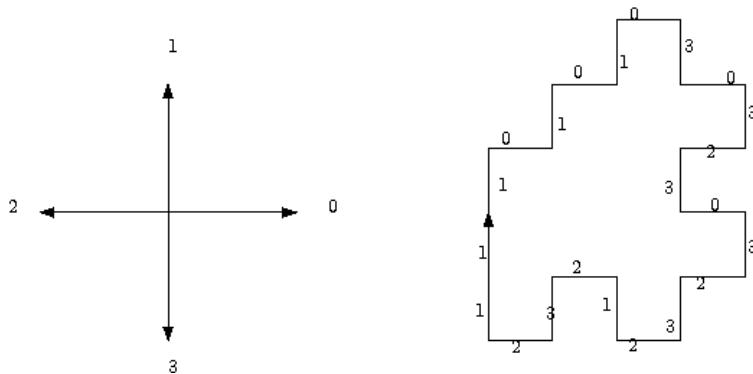


Round and Round (Points: 200)

Mr. Bean is visiting a town where the roads are aligned to an orthogonal grid. He decides to take a ride around town on a rickshaw and return to his hotel. As such the path the rickshaw puller takes is in the form of an orthogonal polygon with each edge having an integer value. Each unit segment of the road the rickshaw puller takes is represented by an integer value, with the directions East, North, West and South being represented by integers 0, 1, 2 and 3 respectively. Hence for such a polygon we can have a sequence of integers where each integer (0 to 3) in the sequence represents the direction of movement for a unit segment of the road. For example consider the figure given below. Its sequence encoding will be 1010103032303232123211.



On his trip around town Mr. Bean notices a couple of very similar looking streets. He grows suspicious of the rickshaw puller and thinks he is fooling him to make more money. Help Mr. Bean find out whether the rickshaw puller indeed crossed the same point in town more than once and whether he brings him back to the starting point or not.

Input Format:

First line contains the number of test cases \mathbf{T} . For each test case, there will be a single line representing the chain encoding of the path taken by the rickshaw of length \mathbf{N} .

Limits: $1 \leq T \leq 100$, $1 \leq N \leq 100000$.

Output Format:

For each test case, output on a separate line a YES if the rickshaw puller brings him back to the starting position without repeating any point in the tour, or a NO if he does not.

Sample Input:

2
1010103032303232123211
00123321

Sample Output:

YES

NO

Instructions

- Your program should not print anything other than what is specified in the output format. A program with extraneous output (even a single space) will be treated as incorrect!
- While submitting your code, please select the language carefully *gcc/g++*. Using the wrong language will lead to compiler error.
- The only input/output functions allowed are `printf`, `scanf`, `cin`, `cout`. Perform all read/write operations through `stdin/stdout`. The solutions will be checked using command line redirection only.

Problem Setter: *Sanket Agarwal*