

# Problem 3: Dream's Apprentice

## 7 Points

Problem ID: `tntrun`

Rank: 1

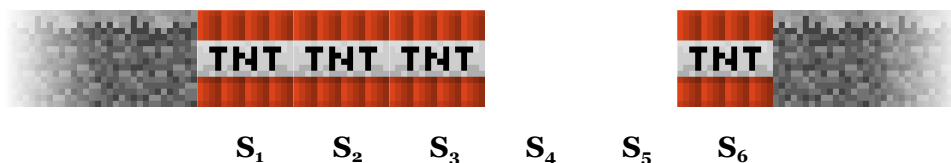
### Introduction

God Benopp has been playing some Minecraft, and has many stories to tell about his exploits:

- In Hypixel Bedwars, he had an army of [80 million subordinates](#).
- On 2b2t, [the oldest anarchy server in Minecraft](#), he had a bounty of 30,000,000 diamonds on his head.
- In TNT Run, the hardest game on Hypixel, where players have to risk their life running across a falling platform, he has completed their most challenging course... or has he?

### Problem Statement

You are given a sequence of  $N$  blocks  $S_1, S_2, \dots, S_N$  forming a course for a player to run across. Each block is either a TNT block or an air block. The player starts on an unseen block preceding  $S_1$  and aims to complete the course by stepping on an unseen block following  $S_N$ .



The player moves from left to right, and can also jump—skipping at most up to **four** blocks at a time. The player can step on TNT blocks but will fall through air blocks. When a player steps on a TNT block, it falls away, leaving an air block in its place. The player claims to have completed the course, which now consists of blocks  $E_1, E_2, \dots, E_N$ . If it is possible for the player to complete the course such these are the blocks that remain in the course, output `YES`—otherwise, output `banned`

*Note: Templates are available for this problem—and **all other problems in this contest**—in Python, Java, and C++! Find them in the [contest.zip provided at the start of the contest](#). Templates handle input and output for you, so you can just fill out a single function.*

## Input Format

The first line of the input contains a single integer  $T$  denoting the number of test cases that follow. For each test case:

- The first line contains a single integer  $N$ , which denotes the number of blocks in the course.
- The second line contains a string of  $N$  characters  $S_1, S_2, \dots, S_N$  denoting each block in the course before the player ran on it. Blocks are one of the following:
  - A TNT block, denoted by a pound sign #
  - An air block, denoted by a dash -
- The third line contains a string of  $N$  characters  $E_1, E_2, \dots, E_N$  denoting each block in the course after the player ran on it. Blocks are one of the following:
  - A TNT block, denoted by a pound sign #
  - Empty space, denoted by a dash -

## Output Format

For each test case, output YES if it is possible for the player to run on the course such that it consists of blocks  $E_1, E_2, \dots, E_N$ , and banned otherwise.

## Constraints

$$1 \leq T \leq 100$$

$$1 \leq N \leq 100$$

The initial TNT Run course is possible to complete.

If  $S_i$  is an air block,  $E_i$  is also an air block.

# Sample Test Cases

## Sample Input

[Download](#)

```
5
6
###--#
-#----
7
-####-#
-####--
4
----
----
12
#----##-#----
#----#-----
20
###-#---###-#####--#
#-#-----#---#--##----
```

## Sample Output

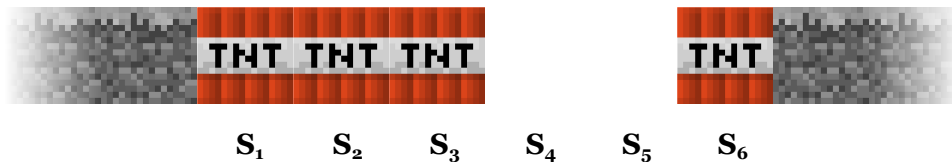
[Download](#)

```
YES
banned
YES
banned
YES
```

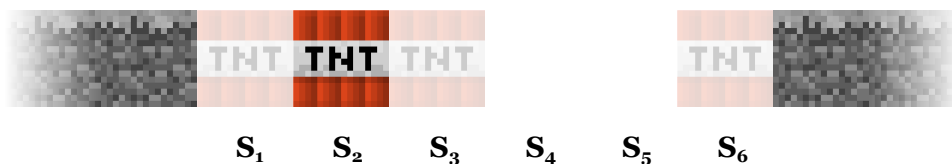
## Sample Explanations

### Test Case #1:

The course initially looks like this:



The player can produce the resulting course by first stepping on the first TNT block. They can then skip the second block by jumping over it, landing on the third. From there, they jump to the TNT block on the sixth space and complete the course. The blocks the player steps on fall away and become air blocks, represented here:



Test Case #2:

The resulting course is impossible to produce because the player must jump over six blocks, exceeding their maximum jump width, to get from the starting position to the TNT block on the seventh space.

Test Case #3:

The player is able to jump over the entire four-block (empty) course, leaving it unchanged.

Test Case #5:

The player can produce the resulting course by:

1. Jumping over the first block, landing on the second.
2. Jumping over the next 2 blocks, landing on the fifth.
3. Jumping over the next 4 blocks, landing on the tenth.
4. Walking onto the eleventh block.
5. Jumping over the next 2 blocks, landing on the fourteenth.
6. Walking onto the fifteenth block.
7. Jumping over the next 4 blocks, landing on the twentieth.
8. Exiting the course.