Problem G
Narrow Passageway

You are a strategist of The ICPC Kingdom. You received an intel that there will be monster attacks on a narrow passageway near the kingdom. The narrow passageway can be represented as a grid with 2 rows (numbered from 1 to 2) and N columns (numbered from 1 to N). Denote (r, c) as the cell in row r and column c. Each cell can be empty, which is represented by the character `.`; or blocked, which is represented by the character `#`.

There are three types of *heroes* that can be deployed to defend the passageway: swordsman, wizard, and defender. Currently, the kingdom has C_s swordsmen, C_w wizards, and C_d defenders. Each swordsman, wizard, and defender has a power of P_s, P_w, and P_d, respectively.

You can only deploy at most **one** hero on an empty cell, while no heroes can be deployed on a blocked cell. Furthermore, there should not be two cells sharing a side and both contain a swordsman; and there should not be two cells sharing a corner and both contain a wizard. Formally,

- if (r, c) contains a swordsman, then $(r-1, c)$, $(r, c+1)$, $(r+1, c)$, and $(r, c-1)$ should not contain a swordsman; and
- if (r, c) contains a wizard, then $(r-1, c-1)$, $(r-1, c+1)$, $(r+1, c+1)$, and $(r+1, c-1)$ should not contain a wizard.

Determine the maximum total power that can be deployed to defend the narrow passageway from the monster attacks.

Input

The first line consists of an integer N ($1 \le N \le 1000$).

The second line consists of three integers C_s C_w C_d ($0 \le C_s, C_w, C_d \le 1000$).

The third line consists of three integers P_s P_w P_d ($1 \le P_s, P_w, P_d \le 100\,000$).

Each of the next 2 lines consists of a string with N characters. They represent the narrow passageway as a grid. The c^{th} character of the r^{th} string represents (r, c). Each character can only be either `.` or `#`.

Output

Output a single integer representing the maximum total power that can be deployed to defend the narrow passageway.

Sample Input #1

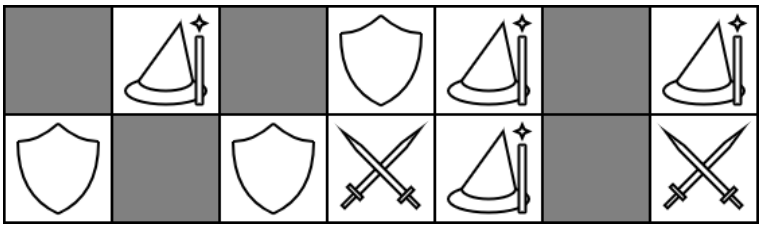
```
7
4 4 3
10 30 20
#.#..#.
.#...#.
```

Sample Output #1

```
200
```

Explanation for the sample input/output #1

One possible deployment which achieves the maximum total power can be seen in the following illustration.



Sample Input #2

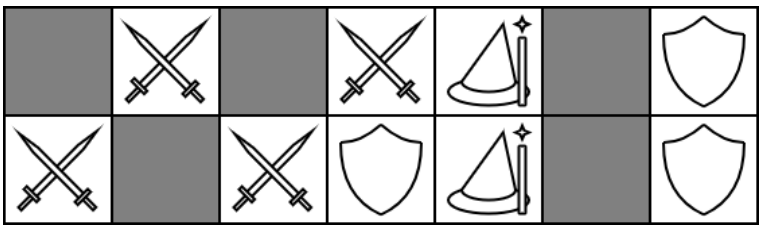
```
7
4 4 3
40 20 30
#.#..#.
.#...#.
```

Sample Output #2

```
290
```

Explanation for the sample input/output #2

One possible deployment which achieves maximum total power can be seen in the following illustration.



Sample Input #3

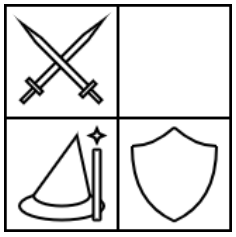
```
2
1 1 1
10 10 10
..
..
```

Sample Output #3

```
30
```

Explanation for the sample input/output #3

One possible deployment which achieves maximum total power can be seen in the following illustration.



Sample Input #4

```
1
2 1 2
20 10 5
.
.
```

Sample Output #4

```
30
```