

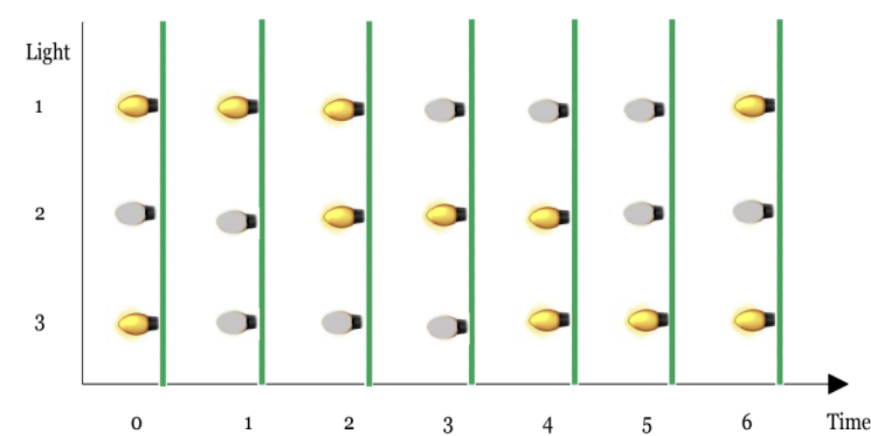
B. Koala and Lights

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

It is a holiday season, and Koala is decorating his house with cool lights! He owns n lights, all of which flash periodically.

After taking a quick glance at them, Koala realizes that each of his lights can be described with two parameters a_i and b_i . Light with parameters a_i and b_i will toggle (on to off, or off to on) every a_i seconds starting from the b_i -th second. In other words, it will toggle at the moments $b_i, b_i + a_i, b_i + 2 \cdot a_i$ and so on.

You know for each light whether it's initially on or off and its corresponding parameters a_i and b_i . Koala is wondering what is the maximum number of lights that will ever be on at the same time. So you need to find that out.



Here is a graphic for the first example.

Input

The first line contains a single integer n ($1 \leq n \leq 100$), the number of lights.

The next line contains a string s of n characters. The i -th character is "1", if the i -th lamp is initially on. Otherwise, i -th character is "0".

The i -th of the following n lines contains two integers a_i and b_i ($1 \leq a_i, b_i \leq 5$) — the parameters of the i -th light.

Output

Print a single integer — the maximum number of lights that will ever be on at the same time.

Examples

input

Copy

3
101
3 3
3 2
3 1

output

Copy

2

input

Copy

4
1111
3 4
5 2

Codeforces Round #584 - Dasha Code Championship - Elimination Round (rated, open for everyone, Div. 1 + Div. 2)

Contest is running

02:16:58

Contestant

Submit?

Language: GNU G++11 5.1.0

Choose file: 选择文件 未选择任何文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit

Score table

	Score
Problem A	500
Problem B	500
Problem C	1250
Problem D	1500
Problem E1	1000
Problem E2	1500
Problem F	2500
Problem G1	1500
Problem G2	2250
Problem H	4000
Successful hack	100
Unsuccessful hack	-50
Unsuccessful submission	-50
Resubmission	-50

* If you solve problem on 00:00 from the first attempt

```
3 1
3 2
```

output

Copy

```
4
```

input

Copy

```
6
011100
5 3
5 5
2 4
3 5
4 2
1 5
```

output

Copy

```
6
```

Note

For first example, the lamps' states are shown in the picture above. The largest number of simultaneously on lamps is 2 (e.g. at the moment 2).

In the second example, all lights are initially on. So the answer is 4.

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