

Contest Duration: 2025-04-05(Sat) 23:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250405T2100&p1=248>) - 2025-04-06(Sun) 00:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250405T2240&p1=248>) (local time) (100 minutes)

[Back to Home \(/home\)](/home)

[🏠 Top \(/contests/abc400\)](/contests/abc400)

[📋 Tasks \(/contests/abc400/tasks\)](/contests/abc400/tasks)

[❓ Clarifications \(/contests/abc400/clarifications\)](/contests/abc400/clarifications)

[📊 Results ▼](#)

[🏆 Standings \(/contests/abc400/standings\)](/contests/abc400/standings)

[🏆 Virtual Standings \(/contests/abc400/standings/virtual\)](/contests/abc400/standings/virtual)

[📖 Editorial \(/contests/abc400/editorial\)](/contests/abc400/editorial)

[💬 Discuss \(https://codeforces.com/blog/entry/141428\)](https://codeforces.com/blog/entry/141428)



F - Happy Birthday! 3

[Editorial \(/contests/abc400/tasks/abc400_f/editorial\)](/contests/abc400/tasks/abc400_f/editorial)



Time Limit: 3 sec / Memory Limit: 1024 MiB

Score : 550 points

Problem Statement

There is a circular cake that has been cut into N equal slices by its radii.

Each piece is labeled with an integer from 1 to N in clockwise order, and for each integer i with $1 \leq i \leq N$, the piece i is also referred to as piece $N + i$.

Initially, every piece's color is color 0.

You can perform the following operation any number of times:

- Choose integers a, b , and c such that $1 \leq a, b, c \leq N$. For each integer i with $0 \leq i < b$, change the color of piece $a + i$ to color c . The cost of this operation is $b + X_c$.

You want each piece i (for $1 \leq i \leq N$) to have color C_i . Find the minimum total cost of operations needed to achieve this.

Constraints

- $1 \leq N \leq 400$
- $1 \leq C_i \leq N$
- $1 \leq X_i \leq 10^9$
- All input values are integers.

2026-01-02 (Fri)

05:22:00 +11:00

Input

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

$$\begin{array}{cccc} N & & & \\ C_1 & C_2 & \dots & C_N \\ X_1 & X_2 & \dots & X_N \end{array}$$

Output

Print the answer.

Sample Input 1

[Copy](#)

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

[Copy](#)

Sample Output 1

[Copy](#)

```
20
```

[Copy](#)

Let A_i denote the color of piece i . Initially, $(A_1, A_2, A_3, A_4, A_5, A_6) = (0, 0, 0, 0, 0, 0)$.

Performing an operation with $(a, b, c) = (2, 1, 4)$ changes $(A_1, A_2, A_3, A_4, A_5, A_6)$ to $(0, 4, 0, 0, 0, 0)$.

Performing an operation with $(a, b, c) = (3, 3, 2)$ changes $(A_1, A_2, A_3, A_4, A_5, A_6)$ to $(0, 4, 2, 2, 2, 0)$.

Performing an operation with $(a, b, c) = (1, 1, 1)$ changes $(A_1, A_2, A_3, A_4, A_5, A_6)$ to $(1, 4, 2, 2, 2, 0)$.

Performing an operation with $(a, b, c) = (4, 1, 1)$ changes $(A_1, A_2, A_3, A_4, A_5, A_6)$ to $(1, 4, 2, 1, 2, 0)$.

Performing an operation with $(a, b, c) = (6, 1, 5)$ changes $(A_1, A_2, A_3, A_4, A_5, A_6)$ to $(1, 4, 2, 1, 2, 5)$.

In this case, the total cost is $5 + 5 + 2 + 2 + 6 = 20$.

Sample Input 2

[Copy](#)

2026-01-02 (Fri)
05:22:00 +11:00

```
5
1 2 3 4 5
1000000000 1000000000 1000000000 1000000000 1000000000
```

[Copy](#)

Sample Output 2

[Copy](#)

```
5000000005
```

[Copy](#)

Sample Input 3

[Copy](#)

```
8
2 3 3 1 2 1 3 1
3 4 1 2 5 3 1 2
```

[Copy](#)

Sample Output 3

[Copy](#)

```
23
```

[Copy](#)

[/#telegram](#))

[#url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fabc400%2Ftasks%2Fabc400_f%3Flang%3Den&title=F%20-](#)

[Rule \(/contests/abc400/rules\)](/contests/abc400/rules) [Glossary \(/contests/abc400/glossary\)](/contests/abc400/glossary)

[Terms of service \(/tos\)](/tos) [Privacy Policy \(/privacy\)](/privacy) [Information Protection Policy \(/personal\)](/personal) [Company \(/company\)](/company)

[FAQ \(/faq\)](/faq) [Contact \(/contact\)](/contact)

Copyright Since 2012 ©AtCoder Inc. (<http://atcoder.co.jp>) All rights reserved.

2026-01-02 (Fri)
05:22:00 +11:00