

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 \(/home\)](#)

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

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

 [Clarifications \(/contests/abc400/clarifications\)](#)  [Results ▾](#)

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

 [Virtual Standings \(/contests/abc400/standings/virtual\)](#)  [Editorial \(/contests/abc400/editorial\)](#)

 [Discuss \(<https://codeforces.com/blog/entry/141428>\)](#) 

# F - Happy Birthday! 3

[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.

## Input

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

```
N  
C1 C2 ... CN  
X1 X2 ... XN
```

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

[Terms of service \(/tos\)](#) [Privacy Policy \(/privacy\)](#) [Information Protection Policy \(/personal\)](#) [Company \(/company\)](#)  
[FAQ \(/faq\)](#) [Contact \(/contact\)](#)

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