

Five Med Sum

Input file: **standard input**
Output file: **standard output**
Time limit: 2 seconds
Memory limit: 1024 megabytes

You are given five integer sequences $A = (A_1, \dots, A_N)$, $B = (B_1, \dots, B_N)$, $C = (C_1, \dots, C_N)$, $D = (D_1, \dots, D_N)$, and $E = (E_1, \dots, E_N)$ of length N .

Find the following value modulo 998244353.

$$\sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^N \sum_{l=1}^N \sum_{m=1}^N \text{med}(A_i, B_j, C_k, D_l, E_m)$$

Here, $\text{med}(a, b, c, d, e)$ represents the median of a, b, c, d, e .

Input

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

```
N
A1 A2 ⋯ AN
B1 B2 ⋯ BN
C1 C2 ⋯ CN
D1 D2 ⋯ DN
E1 E2 ⋯ EN
```

- All values in the input are integers.
- $1 \leq N \leq 10^5$
- $0 \leq A_i, B_i, C_i, D_i, E_i < 998244353$ ($1 \leq i \leq N$)

Output

Print the answer.

Examples

standard input	standard output
1 1 2 3 4 5	3
3 1 2 3 1 3 2 2 1 3 2 3 1 3 1 2	486