

Contest Duration: 2025-05-10(Sat) 22:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250510T2100&p1=248>) - 2025-05-10(Sat) 23:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250510T2240&p1=248>) (local time) (100 minutes)

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## E - Fruit Lineup

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Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 475 points

### Problem Statement

You have  $A$  apples,  $B$  oranges,  $C$  bananas, and  $D$  grapes.

How many ways are there to arrange these  $A + B + C + D$  fruits in a single row from left to right so that all of the following conditions hold? Find the count modulo 998244353.

- Every apple is placed to the left of every banana.
- Every apple is placed to the left of every grape.
- Every orange is placed to the left of every grape.

Here, the apples are indistinguishable; the same goes for the oranges, the bananas, and the grapes.

### Constraints

- $1 \leq A \leq 10^6$
- $1 \leq B \leq 10^6$
- $1 \leq C \leq 10^6$
- $1 \leq D \leq 10^6$
- $A, B, C$ , and  $D$  are integers.

# Input

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

```
A B C D
```

# Output

Output the number, modulo 998244353, of valid arrangements.

---

## Sample Input 1

Copy

```
1 1 1 1
```

Copy

## Sample Output 1

Copy

```
5
```

Copy

There are five valid arrangements:

- apple, orange, banana, grape
- apple, orange, grape, banana
- apple, banana, orange, grape
- orange, apple, banana, grape
- orange, apple, grape, banana

---

## Sample Input 2

Copy

```
1 2 4 8
```

Copy

## Sample Output 2

Copy

```
2211
```

Copy

---

## Sample Input 3

Copy

```
834150 21994 467364 994225
```

Copy

2026-01-02 (Fri)  
05:23:43 +11:00

# Sample Output 3

[Copy](#)

947921688

[Copy](#)

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'#telegram)

'url=https%3A%2F%2Fatcoder.jp%2Fcontests%2Fabc405%2Ftasks%2Fabc405\_e%3Flang%3Den&title=E%20-

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