MWC '15 #1 P3: Dolls

Time limit: 2.0s **Memory limit:** 256M

MathBunny123 has practically a gazillion dolls. Unfortunately, he has so many that some of them are duplicates and he didn't even notice. A universal doll scanner has scanned his room and generated a list of the prices of the dolls. Given a list of the prices, determine the difference between the price of the most frequent doll, and the least frequent doll.

Note: If there are multiple dolls of the highest frequency, use the one with the greatest price, and if there are multiple dolls of the lowest frequency, use the one with the lowest price.

Input Specification

The first line will contain an integer N $(1 \leq N \leq 1\,000\,000)$, the number of dolls that MathBunny123 has in his room.

The second line will contain the N integers, separated by spaces, representing the prices, P $(1 \leq P \leq 100)$, of the dolls.

Output Specification

Output the **absolute difference** between the price of the most frequent doll, and the price of the least frequent doll.

Sample Input

```
6
10 20 10 40 40 40
```

Sample Output

```
20
```

Explanation for Sample Output

The most frequent doll is 40 and the least frequent is 20. The difference between the two numbers is 20.