

Bellagio is a casino in Las Vegas. Bellagio casino offers various kinds of gambling games. The most famous casino game in Bellagio is Phoenix. The phoenix game sells golden cards. Anyone can purchase the golden card at a price indicated at the time of purchase. Cards can be sold back to the machine at any value shown after purchase. But there are several rules you should know before playing.

- 1. Only one card can be kept at a time.
- 2. Before purchasing a new card, you should sell one.
- 3. The machine shows the maximum number of cards anyone can buy that day.
- 4. The selling rate varies from hour to hour.

Adithya is a hacker. He hacked the Phoenix machine and got the algorithm which decides the card-selling rate. He reverse-engineered the algorithm and built a new algorithm that outputs the selling rates of a day. As a programmer, your job is to write an algorithm that outputs the maximum profit Adithya can get.

Input Format

The first line contains an integer k , the cards anyone can buy on that day.

The second line contains a comma-separated set of t integers that gives the selling rates for that day.

Constraints

$$0 \leq k \leq 25$$

$$0 \leq t \leq 10^8$$

Output Format

Output the maximum profit that adithya can achieve.

Sample Input 0

```
2
10,22,5,75,65,80
```

Sample Output 0

```
87
```

Explanation 0

Adithya can earn 87 as maximum profit as a summation of 12 from purchase at price 10 and sell at 22, 75 from purchase at 5 and sell at 80.

Trade 1 --> buy:10 sell:22 profit:12

Trade 2 --> buy:5 sell:80 profit:75

maximum profit = 87

Sample Input 1

```
3
100,30,15,10,8,25,80
```

Sample Output 1

```
72
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Explanation 1

Only one buying and selling. Buy at price 8 and sell at 80.

Trade 1 --> buy:8 sell:80 profit:72

Trade 2 --> no

Trade 3 --> no

maximum profit = 72