Maximum XOR Subset

Given an array of size at most 18, write a program that prints the maximum XOR (Bitwise Exclusive-Or) of any non-empty subset of the array.

XOR of two numbers A and B is done by A^B.

Non-empty subset means a set that has atleast one element and all its elements are present in the original array.

Input Format

First line contains a number N, size of the array. Next N lines contain one integer each.

Constraints

1 <= N <= 18 1 <= A[i] <= 1000

Output Format

Output One number, the maximum possible XOR among the XORs of all subsets.

Sample Input 0

```
1
1
```

Sample Output 0

```
1
```

Sample Input 1

```
3
2
4
1
```

Sample Output 1

```
7
```

Explanation 1

Maximum Xor is obtained when the subset is {1,2,4} as 1^2^4 - 7. A higher value isnt possible.

Current Buffer (saved locally, editable)

C++14

```cpp
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}

```

Line: 1 Col: 1

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Run Code

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