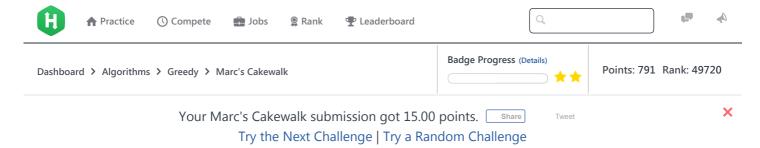
1/21/2018 HackerRank



# Marc's Cakewalk



Problem	Submissions	Leaderboard	Discussions	Editorial 🔒
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Marc loves cupcakes, but he also likes to stay fit. He eats n cupcakes in one sitting, and each cupcake i has a calorie count,  $c_i$ . After eating a cupcake with c calories, he must walk at least  $2^j \times c$  (where j is the number cupcakes he has already eaten) miles to maintain his weight.

Given the individual calorie counts for each of the n cupcakes, find and print a *long integer* denoting the minimum number of miles Marc must walk to maintain his weight. Note that he can eat the cupcakes *in any order*.

### **Input Format**

The first line contains an integer, n, denoting the number of cupcakes.

The second line contains n space-separated integers describing the respective calorie counts of each cupcake,  $c_0, c_1, \ldots, c_{n-1}$ .

#### **Constraints**

- $1 \le n \le 40$
- $1 \le c_i \le 1000$

#### **Output Format**

Print a long integer denoting the minimum number of miles Marc must walk to maintain his weight.

#### Sample Input 0

3 1 3 2

### Sample Output 0

11

## **Explanation 0**

Let's say the number of miles Marc must walk to maintain his weight is miles. He can minimize miles by eating the n=3 cupcakes in the following order:

- 1. Eat the cupcake with  $c_1=3$  calories, so  $miles=0+(3\cdot 2^0)=3$ .
- 2. Eat the cupcake with  $c_2 = 2$  calories, so  $miles = 3 + (2 \cdot 2^1) = 7$ .
- 3. Eat the cupcake with  $c_0=1$  calories, so  $miles=7+(1\cdot 2^2)=11$ .

We then print the final value of *miles*, which is 11, as our answer.

f ⊌ in

Submissions: 15074

Max Score:15

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> Difficulty: Easy Rate This Challenge: More

```
C++14
 Current Buffer (saved locally, editable) & 40
                                                                                                                          Ö
 1 ▼ #include <cmath>
 2 #include <limits>
    #include <set>
 4 #include <iostream>
 5 #include <algorithm>
 6 #include <iterator>
 7
    using namespace std;
 8
    #define ull unsigned long long int
 9
   int main()
11 ▼ {
12
        ios_base::sync_with_stdio(0);
        cin.tie(0);
13
14
        cout.tie(0);
15
16
        ull n, miles=0, idx=0;
17
        cin>>n;
18
        multiset<ull> mySet;
19
        for(auto i=0; i<n;++i)</pre>
20 ▼
21
            ull temp=0;
22
            cin>>temp;
23
            mySet.insert(temp);
24
25
26
        for(auto itr=mySet.rbegin(); itr!=mySet.rend(); ++itr)
27 ▼
               miles+=( (*itr) * pow(2,idx));
28
29
               ++idx;
30
            }
31
        cout<<miles<<endl;</pre>
32
33
        return 0;
    }
34
35
                                                                                                                 Line: 35 Col: 1
                      Test against custom input
                                                                                                     Run Code
                                                                                                                   Submit Code
1 Upload Code as File
```

```
Congrats, you solved this challenge!
                                Challenge your friends: f y in

✓ Test Case #0

✓ Test Case #1

✓ Test Case #2
✓ Test Case #3
                                         ✓ Test Case #4
                                                                                            Next Challenge
                                                                You've earned 15.00 points.
```

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