

















All Competitions > c2c2017-1 > Marc's Cakewalk

Marc's Cakewalk



Problem

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Leaderboard

Discussions

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

3 132

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 $miles=7+(1\cdot 2^2)=11$.

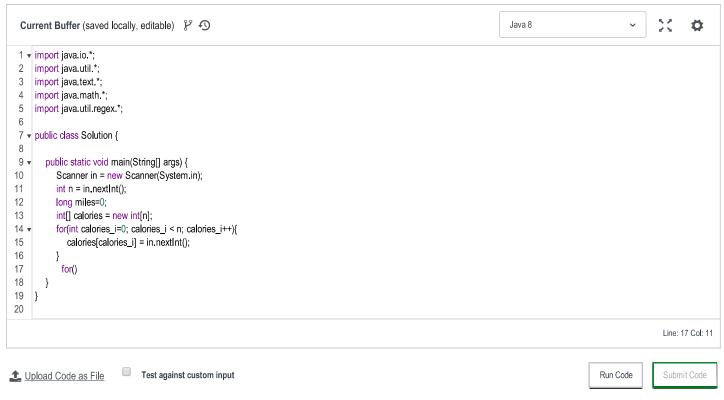
We then print the final value of *miles*, which is 11, as our answer.

f y i

Contest ends in an hour

Submissions: 0
Max Score: 15





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