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Partition Problem (DPP20)

Problem

Submissions

Leaderboard

Discussions

Program to check whether the problem can be divided into two subsets with equal sum or not

Input Format

1. Take number and array elements from the user
2. Take the size from the user

Constraints

1. $0 \leq \text{num} \leq 1000000$
2. $\text{size} > 0$

Output Format

1. It should solve the partition problem and check the availability

Sample Input 0

6
7 3 1 5 4 8

Sample Output 0

Yes

Explanation 0

E.g. Given set {7,3,1,5,4,8} It can be divided as {7,4,3} and {1,5,8} because $7+4+3=14$ and $1+5+8=14$ that's why "Yes"

[f](#) [t](#) [in](#)

Submissions: 12

Max Score: 40

Difficulty: Medium

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C++



```
1 #include <bits/stdc++.h>
2 using namespace std;
3
4 bool isSubsetSum (int arr[], int n, int sum)
5 {
6
7     if (sum == 0)
8         return true;
```

```
9     if (n == 0 && sum != 0)
10         return false;
11
12
13     if (arr[n-1] > sum)
14         return isSubsetSum (arr, n-1, sum);
15
16
17     return isSubsetSum (arr, n-1, sum) ||
18         isSubsetSum (arr, n-1, sum-arr[n-1]);
19 }
20
21 bool findPartiion (int arr[], int n)
22 {
23
24     int sum = 0;
25     for (int i = 0; i < n; i++)
26         sum += arr[i];
27
28
29     if (sum%2 != 0)
30         return false;
31
32
33     return isSubsetSum (arr, n, sum/2);
34 }
35
36
37 int main()
38 {
39     int n;
40     cin>>n;
41     int arr[n] ;
42     for(int i=0;i<n;i++)
43         cin>>arr[i];
44     if (findPartiion(arr, n) == true)
```

```
45         cout << "No";
46     else
47         cout << "Yes";
48     return 0;
49 }
50
```

Line: 1 Col: 1

[Upload Code as File](#) ☐ Test against custom input

Run Code

Submit Code

Testcase 0 ✓

Congratulations, you passed the sample test case.

Click the **Submit Code** button to run your code against all the test cases.

Input (stdin)

```
6
7 3 1 5 4 8
```

Your Output (stdout)

```
Yes
```

Expected Output

```
Yes
```

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