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< Greedy Algorithms Challenges

Priyanka and Toys 🔖

👤 by amititkgp

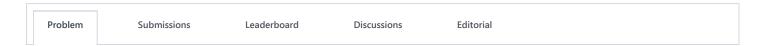| Problem	Submissions	Leaderboard	Discussions	Editorial

Little Priyanka visited a kids' shop. There are N toys and their weight is represented by an array $W = [w_1, w_2, \ldots, w_N]$. Each toy costs 1 unit, and if she buys a toy with weight w', then she can get all other toys whose weight lies between $[w', w' + 4]$ (both inclusive) free of cost.

Input Format

The first line contains an integer N i.e. number of toys.
Next line will contain N integers, $w_1, w_2, \ldots, w_N$, representing the weight array.

Output Format

Minimum units with which Priyanka could buy all of toys.

Constraints
$1 \leq N \leq 10^5$
$0 \leq w_i \leq 10^4, where\ i \in [1, N]$

Sample Input

```
5
1 2 3 17 10
```

Sample Output

```
3
```

Explanation

She buys 1st toy with weight 1 for 1 unit and gets 2nd and 3rd toy for free since their weight lies between $[1, 5]$. And she has to buy last two toys separately.

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Submissions: 11746
Max Score: 30
Difficulty: Easy

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More

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```
1  using System;
2  using System.Collections.Generic;
3  using System.IO;
4  class Solution {
```

```
 5 ▾      static void Main(String[] args) {
 6           /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution
    */
 7
 8          int n = int.Parse(Console.ReadLine());              Loading...
 9              int[] a = Array.ConvertAll(Console.ReadLine().Split(' '), e => int.Parse(e));
10
11          Array.Sort(a);
12          int i = 0;
13
14          int cont = 0;
15          while (i < a.Length)
16 ▾        {
17              int actual = a[i];
18              int j = i+1;
19              while  (j < a.Length && a[j] <= actual + 4)
20 ▾            {
21                  j++;
22              }
23              i = j;
24              cont++;
25
26          }
27
28          Console.WriteLine(cont);
29
30      }
31 }
```

Line: 28 Col: 37

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code

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Congrats, you solved this challenge!

✔ Test Case #0   ✔ Test Case #1   ✔ Test Case #2

✔ Test Case #3   ✔ Test Case #4   ✔ Test Case #5

✔ Test Case #6   ✔ Test Case #7   ✔ Test Case #8

✔ Test Case #9   ✔ Test Case #10   ✔ Test Case #11

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