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Handle:



## Statistics

### Problem Statistics

#### Problem Statistics for [TopCoder Collegiate Challenge > Semifinal Round 3 > Room 1 > sjelkjd](#)

Class Name	Method Name		Difficulty	Status	Score
[ ZigZag ]	longestZigZag	<a href="#">problem details</a>	Level One	Passed System Test	281.30
Criminal	numPseudonyms	<a href="#">problem details</a>	Level Two	Passed System Test	342.66
TimeSlicing	howMany	<a href="#">problem details</a>	Level Three	Passed System Test	874.63

[View ZigZag Problem Statement](#)

```
#include <string>
#include <vector>
#include <sstream>
#include <algorithm>
#include <iostream>

// #include <functional>
// #include <map>
// #include <set>
// #include <numeric>
// #include <queue>
// #include <stack>
// #include <list>

using namespace std;

class ZigZag {
public:
    int longestZigZag(vector<int> sequence)
    {
        if(sequence.size() == 1) return 1;
        vector<int> v(sequence.size()-1);
        for(int i=1; i<sequence.size(); i++)
        {
            v[i-1] = sequence[i] - sequence[i-1];
        }
        // dir is first nonzero
        int ii=0;
        while( ii < v.size() && v[ii] == 0)
            ii++;
        if(ii == v.size()) return 1;
        int dir = v[ii];
        int len = 2;
        for(int i=ii+1; i<v.size(); i++)
        {
            if(v[i] * dir < 0)
            {
                dir *= -1;
                len++;
            }
        }
        return len;
    }
};
```

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#### System Test Results

Test Arguments	Expected Results	Success
{1, 7, 4, 9, 2, 5}	6	Passed
{1, 17, 5, 10, 13, 15, 10, 5, 16, 8}	7	Passed
{10, 20}	2	Passed
{20, 10}	2	Passed
{20, 20}	1	Passed
{44}	1	Passed
{1, 2, 3, 4, 5, 6, 7, 8, 9}	2	Passed
{10, 9, 8, 7, 6, 7, 8, 9, 10}	3	Passed
{12, 333, 700, 436, 1, 919, 959, 456, 456, 456, 1000, 193, 192, 13, 75, 818, 197, 197, 2, 777, 99, 81, 222, 109, 1000, 19, 27, 270, 62, 189, 987, 234, 55, 2, 718, 238, 901, 901, 900, 432, 55, 606, 89, 7, 7, 23, 789, 790, 800, 1000}	26	Passed
{70, 55, 13, 2, 99, 2, 80, 80, 80, 80, 100, 19, 7, 5, 5, 5, 1000, 32, 32}	8	Passed
{3, 3, 3, 3, 3}	1	Passed

{4, 4, 4, 4, 4, 1, 1, 1, 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 2, 2}	3	Passed
{1, 2, 2, 1, 1, 2, 3, 3, 2, 1, 1, 2, 3, 4, 4, 3, 2, 1, 1, 2, 3, 4, 5, 5, 4, 3, 2, 1}	9	Passed
{396, 549, 22, 819, 611, 972, 730, 638, 978, 342, 566, 514, 752, 871, 911, 172, 488, 542, 482, 974, 210, 474, 66, 387, 1, 872, 799, 262, 567, 113, 578, 308, 813, 515, 716, 905, 434, 101, 632, 450, 74, 254, 1000, 780, 633, 496, 513, 772, 925, 746}	37	Passed
{374, 40, 854, 203, 203, 156, 362, 279, 812, 955, 600, 947, 978, 46, 100, 953, 670, 862, 568, 188, 67, 669, 810, 704, 52, 861, 49, 640, 370, 908, 477, 245, 413, 109, 659, 401, 483, 308, 609, 120, 249, 22, 176, 279, 23, 22, 617, 462, 459, 244}	36	Passed
{89, 106, 125, 142, 141, 137, 158, 184, 191, 189, 189, 206, 228, 240, 228, 263, 259, 256, 266, 287, 302, 297, 330, 341, 353, 353, 364, 376, 365, 398, 386, 420, 413, 419, 451, 441, 463, 484, 480, 487, 494, 520, 534, 542, 534, 541, 571, 584, 565, 577}	26	Passed
{61, 82, 126, 97, 167, 186, 119, 154, 155, 142, 153, 181, 172, 192, 223, 272, 273, 260, 280, 330, 329, 350, 273, 324, 349, 306, 385, 375, 420, 416, 435, 457, 373, 477, 395, 487, 500, 439, 493, 537, 518, 549, 542, 500, 524, 541, 512, 589, 549, 543}	35	Passed
{8, 6, 4, 2, 3, 5, 7, 9}	3	Passed
{4, 1, 6, 7, 7, 8, 9, 8, 6, 8}	5	Passed
{4, 6, 4, 4, 1, 2, 6, 7, 1, 3}	6	Passed
{9, 1, 8, 2, 7, 3, 6, 4, 5, 5, 4, 6, 3, 7, 2, 8, 1, 9}	17	Passed
{1, 1}	1	Passed

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