codility

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Candidate Report: Anonymous

Test Name:

Summary Timeline

Test Score

68 out of 100 points

68%

Tasks in Test

	Time Spent	Task Score
Triangle Submitted in: Java 8	1 min	68%

TASKS DETAILS

		Task Score	Correctness	Performance
EASY	1. **Triangle** Determine whether a triangle can be built from a given set of edges.	68%	90%	33%

Task description

An array A consisting of N integers is given. A triplet (P, Q, R) is *triangular* if 0 ≤ P < Q < R < N and:

- A[P] + A[Q] > A[R],
- A[Q] + A[R] > A[P],
- A[R] + A[P] > A[Q].

For example, consider array A such that:

```
A[0] = 10    A[1] = 2    A[2] = 5
A[3] = 1     A[4] = 8    A[5] = 20
```

Triplet (0, 2, 4) is triangular.

Write a function:

```
class Solution { public int solution(int[] A); }
```

that, given an array A consisting of N integers, returns 1 if there exists a triangular triplet for this array and returns 0 otherwise.

For example, given array A such that:

```
A[0] = 10    A[1] = 2    A[2] = 5
A[3] = 1     A[4] = 8    A[5] = 20
```

the function should return 1, as explained above. Given array A such that:

```
A[0] = 10    A[1] = 50    A[2] = 5
A[3] = 1
```

the function should return 0.

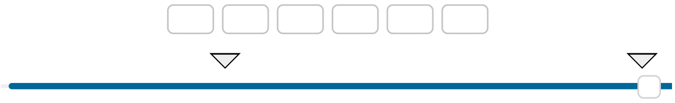
Write an **efficient** algorithm for the following assumptions:

- N is an integer within the range [0..100,000];

Solution

Programming language used:	Java 8
Total time used:	1 minutes
Effective time used:	1 minutes
Notes:	*not defined yet*

Task timeline



12:02:52 12:03:44

Code: 12:03:44 UTC, java, final, score: 68

show code in pop-up

```
// you can also use imports, for example:
// import java.util.*;

// you can write to stdout for debugging purposes, e.g.
// System.out.println("this is a debug message");

class Solution {
    public static int solution(int[] a) {
                // System.out.println(a.length);
```

- each element of array A is an integer within the range [−2,147,483,648..2,147,483,647].

```

                if (a.length < 3)
                        return 0;

                for (int p = 0; p < a.length - 2; p++) {
                        // System.out.println(p);

                        for (int q = p + 1; q < a.length -
                                // System.out.println(p +

                                for (int r = q + 1; r < a.
                                        // System.out.prin
                                        if (ck(a[p], a[q],
                                                return 1;
                                }
                        }
                }
                return 0;
    }

        public static boolean ck(int ap, int aq, int ar) {
                return ap + aq > ar && aq + ar > ap && ar
        }
}
```

Analysis summary

The following issues have been detected: wrong answers, timeout errors.

Analysis ?

Detected time complexity: **O(N**3)**

expand all	Example tests
▶ example example, positive answer, length=6	✓ OK
▶ example1 example, answer is zero, length=4	✓ OK
expand all	**Correctness tests**
▶ extreme_empty empty sequence	✓ OK
▶ extreme_single 1-element sequence	✓ OK
▶ extreme_two_elems 2-element sequence	✓ OK
▶ extreme_negative1 three equal negative numbers	✓ OK
▶ extreme_arith_overflow1 overflow test, 3 MAXINTs	✗ WRONG ANSWER got 0 expected 1
▶ extreme_arith_overflow2 overflow test, 10 and 2 MININTs	✓ OK
▶ extreme_arith_overflow3 overflow test, 0 and 2 MAXINTs	✓ OK
▶ medium1 chaotic sequence of values from [0..100K], length=30	✓ OK
▶ medium2 chaotic sequence of values from [0..1K], length=50	✓ OK
▶ medium3 chaotic sequence of values from [0..1K],	✓ OK

length=100

expand all

	Performance tests	
▶	large1 chaotic sequence with values from [0..100K], length=10K	✓ OK
▶	large2 1 followed by an ascending sequence of ~50K elements from [0..100K], length=~50K	✗ TIMEOUT ERROR Killed. Hard limit reached: 6.000 sec.
▶	large_random chaotic sequence of values from [0..1M], length=100K	✓ OK
▶	large_negative chaotic sequence of negative values from [-1M..-1], length=100K	✗ TIMEOUT ERROR Killed. Hard limit reached: 7.000 sec.
▶	large_negative2 chaotic sequence of negative values from [-10..-1], length=100K	✗ TIMEOUT ERROR Killed. Hard limit reached: 6.000 sec.
▶	large_negative3 sequence of -1 value, length=100K	✗ TIMEOUT ERROR Killed. Hard limit reached: 6.000 sec.

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