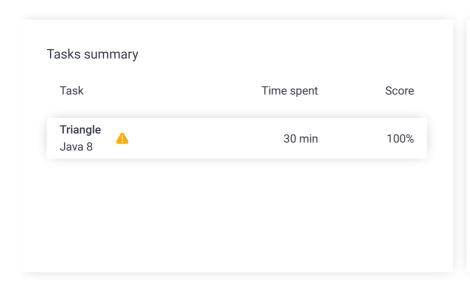
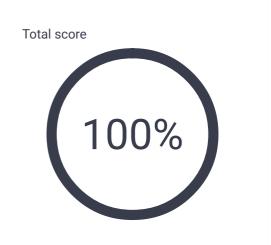
# Codility\_

## CodeCheck Report: training749EE5-KNH

Test Name:

Summary Timeline Check out Codility training tasks





#### **Tasks Details**

1. Triangle

Determine whether a triangle can be built from a given set of edges.

Task Score

100%

Correctness

Performance

100%

100%

#### Task description

An array A consisting of N integers is given. A triplet (P, Q, R) is triangular if  $0 \le P < Q < R < N$  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:

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:

#### Solution

Programming language used: Java 8

Total time used: 30 minutes

Effective time used: 30 minutes

Notes: not defined yet

## Task timeline

3





Code: 06:14:10 UTC, java, show code in pop-up final, score: 100

1 // you can also use imports, for example: 2

- // import java.util.\*;
- // you can write to stdout for debugging purposes,

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

the function should return 0.

Write an efficient algorithm for the following assumptions:

- N is an integer within the range [0..100,000];
- each element of array A is an integer within the range [-2,147,483,648..2,147,483,647].

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```
// System.out.println("this is a debug message");
6
     import java.util.*;
     class Solution {
8
         public int solution(int[] A) {
9
             int N = A.length;
         if (N < 3) return 0;
10
11
         Arrays.sort(A);
12
13
         for (int i = 0; i < N - 2; i++) {
              if (A[i] >= 0 && A[i] > A[i + 2] - A[i +
14
15
                 return 1;
16
17
18
         }
19
20
         return 0;
21
22
     }
```

### Analysis summary

The solution obtained perfect score.

### Analysis

# Detected time complexity: O(N\*log(N))

expand all		Example to	ete	
▶ exar	nple ple, positive ans			ОК
	nple1 ple, answer is ze	, 3	·	OK
expand all		Correctness	tests	5
	eme_empty sequence		✓	OK
	eme_single nent sequence		✓	OK
	eme_two_ele nent sequence	ms	✓	OK
	eme_negative		✓	OK
	eme_arith_ov ow test, 3 MAXI		✓	OK
	eme_arith_ov ow test, 10 and		✓	OK
	eme_arith_ov ow test, 0 and 2		✓	OK
chaot	ium1 ic sequence of v 0K], length=30	values from	✓	OK
chaot	ium2 ic sequence of v ], length=50	values from	✓	OK
chaot	ium3 ic sequence of v ], length=100	values from	✓	OK
expand all	F	Performance	test	S
► large	e1 ic sequence wit	h values from	✓	OK

	[0100K], length=10K	
•	large2 1 followed by an ascending sequence of ~50K elements from [0100K], length=~50K	√ OK
•	large_random chaotic sequence of values from [01M], length=100K	<b>√</b> 0K
•	large_negative chaotic sequence of negative values from [-1M1], length=100K	√ OK
•	large_negative2 chaotic sequence of negative values from [-101], length=100K	√ 0K
•	large_negative3 sequence of -1 value, length=100K	✓ OK