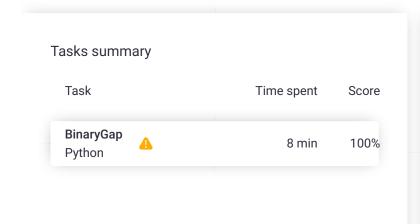
## Codility\_

## CodeCheck Report: training29VSY5-DU9

Test Name:

Check out Codility training tasks

Summary Timeline





### Tasks Details

# 1. BinaryGap

Find longest
sequence of Task Score Correctness
zeros in 100%
binary
representation
of an integer.

Performance

Not assessed

100%

Task description

A binary gap within a positive integer N is any maximal sequence of consecutive zeros that is surrounded by ones at both ends in the binary representation of N.

For example, number 9 has binary representation 1001 and contains a binary gap of length 2. The number 529 has binary representation 1000010001 and contains two binary gaps: one of length 4 and one of length 3. The number 20 has binary representation 10100 and contains one binary gap of length 1. The number 15 has binary representation 1111 and has no binary gaps. The number 32 has binary representation 100000 and has no binary gaps.

#### Solution

Programming language used: Python

Total time used: 8 minutes

Effective time used: 8 minutes

Notes: not defined yet

Task timeline

1 von 3

Write a function:

def solution(N)

that, given a positive integer N, returns the length of its longest binary gap. The function should return 0 if N doesn't contain a binary gap.

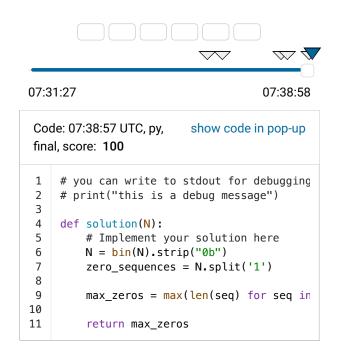
For example, given N = 1041 the function should return 5, because N has binary representation 10000010001 and so its longest binary gap is of length 5. Given N = 32 the function should return 0, because N has binary representation '100000' and thus no binary gaps.

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

 N is an integer within the range [1..2,147,483,647].

Copyright 2009–2023 by Codility Limited. All Rights Reserved.

Unauthorized copying, publication or disclosure prohibited.



## Analysis summary

The solution obtained perfect score.

### **Analysis**

expa	expand all Example tests					
<b>•</b>	example1		•	ОК		
	example test					
	n=1041=10000010	001_2				
<b>•</b>	example2		~	ОК		
	example test n=15	=1111_2				
<b>&gt;</b>	example3		~	ОК		
	example test n=32	=100000_2				
expa	expand all Correctness tests					
<b>•</b>	extremes		~	ОК		
	n=1, n=5=101_2 an	d				
	n=2147483647=2**	*31-1				
<b>•</b>	trailing_zeroes		•	OK		
	n=6=110_2 and					
	n=328=101001000	_2				
<b>•</b>	power_of_2		~	ОК		
	n=5=101_2, n=16=2	2**4 and				
	n=1024=2**10					
<b>•</b>	simple1		~	ОК		
	n=9=1001_2 and n	=11=1011_2				
<b>•</b>	simple2		~	ОК		
	n=19=10011 and n	=42=101010_2				
<b>&gt;</b>	simple3		~	ОК		
	n=1162=10010001	010_2 and				
	n=5=101_2					
<b>•</b>	medium1		~	ОК		

2 von 3 17.07.23, 09:40

l <u>.</u> .			
	712=110010100000000_2 n=20=10100_2		
<b>&gt;</b>	medium2 n=561892=10001001001011100 100_2 and n=9=1001_2	<b>✓</b>	ок
<b>&gt;</b>	medium3 n=66561=10000010000000001_2	•	ок
<b>&gt;</b>	large1 n=6291457=11000000000000000 0000001_2	<b>✓</b>	ОК
•	large2 n=74901729=100011101101110 100011100001	<b>V</b>	OK
<b>&gt;</b>	large3 n=805306373=11000000000000 0000000000000101_2	<b>V</b>	OK
<b>&gt;</b>	large4 n=1376796946=1010010000100 000100000100010010_2	<b>~</b>	ок
<b>&gt;</b>	large5 n=1073741825=1000000000000 000000000000000001_2	<b>V</b>	ок
<b>&gt;</b>	large6 n=1610612737=1100000000000 000000000000000001_2	<b>V</b>	ОК

3 von 3