



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 2009–2024 by Codility Limited. All Rights Reserved. Unauthorized copying, publication or disclosure prohibited.

Code: 09:29:55 UTC, py, final, [show code in pop-up](#)  
score: 80

```
1  # you can write to stdout for debugging purposes, e
2  # print("this is a debug message")
3
4  def solution(N):
5      max=0
6      count=0
7      init=2
8      bnry=list(bin(N))
9      arr=[]
10     arr=bnry[2:][::-1]
11     for i in range(len(arr)):
12         if(int(arr[i])==1):
13             init=arr[i]
14             break
15     # print(arr)
16     for j in range(i,len(arr)):
17         # print(j)
18         if(arr[j]!=init):
19             count+=1
20         else:
21             if(count>max):
22                 max=count
23                 count=0
24
25     return max
```

Analysis summary

The following issues have been detected: wrong answers.

For example, for the input 561892 the solution returned a wrong answer (got 5 expected 3).

Analysis

Example tests	
▶ example1	✓ OK
example test n=1041=10000010001_2	
▶ example2	✓ OK
example test n=15=1111_2	
▶ example3	✓ OK
example test n=32=100000_2	
Correctness tests	
▶ extremes	✓ OK
n=1, n=5=101_2 and n=2147483647=2**31-1	
▶ trailing_zeroes	✓ OK
n=6=110_2 and n=328=101001000_2	
▶ power_of_2	✓ OK
n=5=101_2, n=16=2**4 and n=1024=2**10	
▶ simple1	✓ OK
n=9=1001_2 and n=11=1011_2	
▶	

simple2		✓ OK
n=19=10011 and n=42=101010_2		
▶ simple3		✓ OK
n=1162=10010001010_2 and n=5=101_2		
▶ medium1		✓ OK
n=51712=110010100000000_2 and n=20=10100_2		
▶ medium2		✗ WRONG ANSWER
n=561892=10001001001011100100_2 and n=9=1001_2		
▶ medium3		✓ OK
n=66561=10000010000000001_2		
▶ large1		✓ OK
n=6291457=11000000000000000000 01_2		
▶ large2		✗ WRONG ANSWER
n=74901729=10001110110111010001 1100001		
▶ large3		✓ OK
n=805306373=11000000000000000000 00000000101_2		
▶ large4		✗ WRONG ANSWER
n=1376796946=101001000010000010 0000100010010_2		
▶ large5		✓ OK
n=1073741825=10000000000000000000 000000000001_2		
▶ large6		✓ OK
n=1610612737=11000000000000000000 000000000001_2		