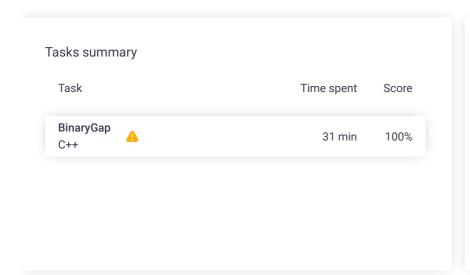
Codility_

CodeCheck Report: trainingUVE6EJ-GYF

Test Name:

Check out Codility training tasks

Summary Timeline 🛕 Al Assistant Transcript





Tasks Details

1. BinaryGap

Easy

Find longest sequence of zeros in binary representation of an integer.

Task Score

Correctness

Performance

100% Not assessed

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.

Write a function:

int solution(int 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

Solution

Programming language used: C++

Total time used: 31 minutes

Effective time used:

Task timeline

08:41:37

31 Illillates

31 minutes

Notes: not defined yet

Code: 09:12:25 UTC, cpp, show code in pop-up final, score: 100

1 // you can use includes, for example:

// #include <algorithm>

09:12:25

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].

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Test results - Codility

```
// you can write to stdout for debugging purposes,
    // cout << "this is a debug message" << endl;</pre>
6
7
    int solution(int N) {
         // Implement your solution here
9
         int ans=0;
10
         int count=0;// to count total bits in binary r
         int start=-1; // to show the initial one
11
13
         while(N)
14
         {
             int curr=N & 1; // get the last bit(0/1) o
15
16
             if(curr==1)
17
18
             {
                 // current bit is one
19
20
                 if(start!=-1)
21
22
                     ans = max(ans, count-start-1);
23
                 }
24
                 start=count;
25
             }
             // increase the count
26
27
             count++;
28
             // reduce the N
29
             N=N/2;
         }
30
         return ans;
31
32
33
    }
```

Analysis summary

The solution obtained perfect score.

Analysis

ехра	nd all	Example tests	3	
\blacktriangleright	example1		✓	OK
	example test n=1041=10000010001_2			
\blacktriangleright	example2		✓	OK
	example test n=15=	1111_2		
	example3		✓	OK
	example test n=32=	100000_2		
ехра	nd all	Correctness tes	sts	5
	extremes		√	OK
	n=1, n=5=101_2 and	I		
	n=2147483647=2**	31-1		
	trailing_zeroes		✓	OK
	n=6=110_2 and n=3	28=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		
\blacktriangleright	simple3		✓	OK
	n=1162=100100010	010_2 and		
	n=5=101_2			
	medium1		✓	OK
	n=51712=11001010	00000000_2 and		

Test results - Codility

n=20=10100_2					
medium2 n=561892=10001001001011100100_2 and n=9=1001_2	√ OK				
medium3 n=66561=1000001000000001_2	✓ OK				
► large1 n=6291457=1100000000000000000000000000000000000	√ 0K				
► large2 n=74901729=1000111011011101000 11100001	√ 0K				
► large3 n=805306373=110000000000000000000000000000000000	√ 0K				
► large4 n=1376796946=10100100001000001 00000100010010_2	√ 0K				
► large5 n=1073741825=1000000000000000000000000000000000000	√ OK				
► large6 n=1610612737=110000000000000000000000000000000000	√ OK				