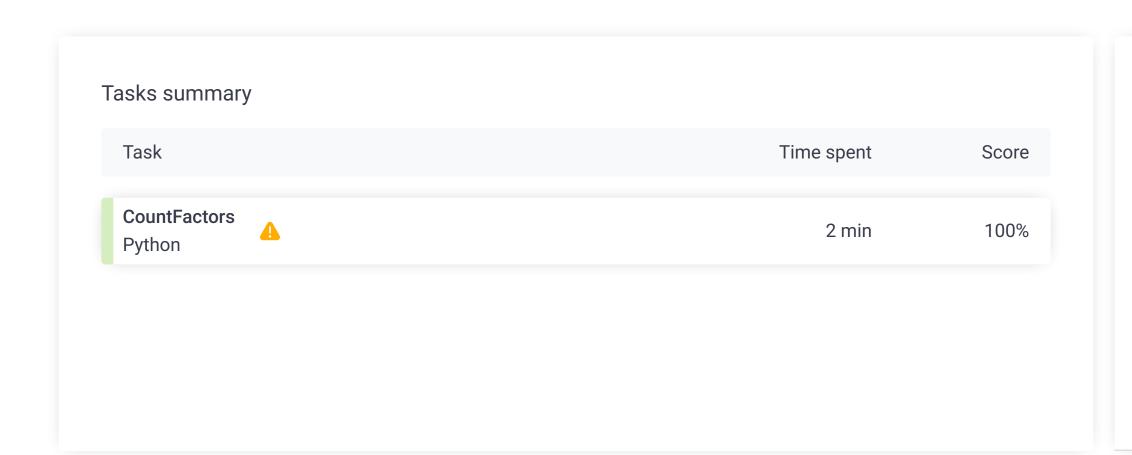
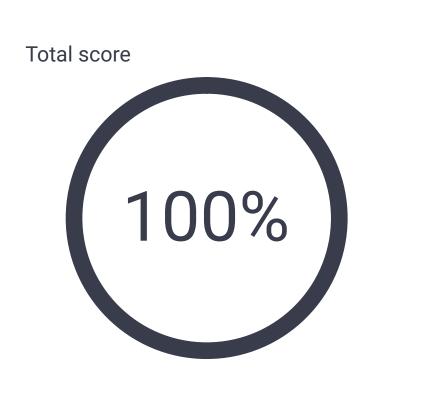
0.....

Summary Timeline





Tasks Details



CountFactors
 Count factors of given number n.

Task Score Correctness Performance
100% 100%

Task description

A positive integer D is a *factor* of a positive integer N if there exists an integer M such that N = D * M.

For example, 6 is a factor of 24, because M = 4 satisfies the above condition (24 = 6 * 4).

Write a function:

def solution(N)

that, given a positive integer N, returns the number of its factors.

For example, given N = 24, the function should return 8, because 24 has 8 factors, namely 1, 2, 3, 4, 6, 8, 12, 24. There are no other factors of 24.

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

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

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Solution



Task timeline

	$\overline{}$	
02:27:37		02:29:19

100	le: 02:29:19 UTC, py, final, score: show code in pop-up
1	# you can write to stdout for debugging purposes, e.g.
2	<pre># print("this is a debug message")</pre>
4	<pre>def solution(N):</pre>
5	# write your code in Python 3.6
6	if N == 0:
7	return 0
8	elif N == 1:
9	return 1
10	elif N == 2:
11	return 2
12	elif N == 3:
13	return 2
14	else:
15	
16	ndiv = 2
17	
18	for i in range(2, int(N**0.5)+1):
19	if N%i == 0:
20	ndiv += 2
21 22	if (N**0.5)%1 == 0:
23	11 (N**0.5) %1 == 0: $ndiv == 1$
	11111V =- I

Analysis summary

The solution obtained perfect score.

return ndiv

Analysis

25

Detected time complexity: O(sqrt(N))

expand all	Example tests
example1 example test (N=24=4!)	✓ OK
expand all	Correctness tests
> squares N=16, N=36	✓ OK
► tiny N <= 10	✓ OK
simple1 N=41(prime), N=42	✓ OK
simple2 N=69, N=64, N=120=5!	✓ OK
simple3 N=720=6!, N=1111	✓ OK
simple4 N=5,040=7!, N=12,345	✓ OK
simple5 N=34,879, N=40,320=8!	✓ OK
extreme_one	✓ OK

expand	all Performance to	ests
•	medium1 N=362,880=9!, N=1,948,102	✓ OK
•	medium2 N=3,628,800=10!, N=5,621,892, N=4,999,696	✓ OK
•	big1 N=27,043,111, N=39,916,800=11!, N = 39,992,976	✓ OK
>	big2 N=97,093,212, N=2^28	✓ OK
•	big3 N=479,001,600=12!, N=780291637(prime), N=449,991,369	✓ OK
>	extreme_maxint N=1,000,000,000, N=MAX_INT, N=2147,395,600	✓ OK