

GE23131-Programming Using C-2024

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Status	Finished
Started	Sunday, 12 January 2025, 11:32 PM
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Duration	8 mins 17 secs

Question 1

Correct

Marked out of 1.00

☐ Flag question

You are a bank account hacker. Initially you have 1 rupee in your account, and you want exactly N rupees in your account. You wrote two hacks, first hack can multiply the amount of money you own by 10, while the second hack can subtract 1 rupee from your account. These hacks can be used any number of time. Can you achieve the desired amount N using these hacks?

Constraints:

$1 \leq T \leq 100$
 $1 \leq N \leq 10^{12}$

Input

The test case contains a single integer N .

Output

For each test case, print a single line containing the string "1" if you can make exactly N rupees using the hacks, otherwise print "0".

SAMPLE INPUT

1

SAMPLE OUTPUT

1

SAMPLE INPUT

2

SAMPLE OUTPUT

0

Answer: (penalty regime: 0 %)

	Test	Expected	Got	
	printf("%d", myFunc(1))	1	1	
	printf("%d", myFunc(2))	0	0	
	printf("%d", myFunc(10))	1	1	
	printf("%d", myFunc(25))	0	0	
	printf("%d", myFunc(200))	1	1	

Passed all tests!

Question 2

Correct

Marked out of 1.00

☐ Flag question

Find the number of ways that a given integer, ***X***, can be expressed as the sum of the ***Nth*** power numbers.

For example, if ***X* = 13** and ***N* = 2**, we have to find all combinations of unique squares adding is $2^2 + 3^2$.

Function Description

Complete the powerSum function in the editor below. It should return an integer that represents the number of combinations.

powerSum has the following parameter(s):

X: the integer to sum to

N: the integer power to raise numbers to

Input Format

The first line contains an integer ***X***.

The second line contains an integer ***N***.

Constraints

$1 \leq X \leq 1000$

$2 \leq N \leq 10$

Output Format

Output a single integer, the number of possible combinations calculated.

Sample Input 0

Sample Output 0

1

Explanation 0

If $X = 10$ and $N = 2$, we need to find the number of ways that 10 can be represented as the sum of N unique squares.

$$10 = 1^2 + 3^2$$

This is the only way in which 10 can be expressed as the sum of unique squares.

Sample Input 1

100

2

Sample Output 1

3

Explanation 1

$$100 = (10^2) = (6^2 + 8^2) = (1^2 + 3^2 + 4^2 + 5^2 + 7^2)$$

Sample Input 2

100

3

Sample Output 2

1

Explanation 2

100 can be expressed as the sum of the cubes of $1, 2, 3, 4$.

$(1 + 8 + 27 + 64 = 100)$. There is no other way to express 100 as the sum of cubes.

Answer: (penalty regime: 0 %)

	Test	Expected	Got	
	printf("%d", powerSum(10, 1, 2))	1	1	

Passed all tests!

Save the state of the flags