

GE23131-Programming Using C-2024

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Started	Monday, 13 January 2025, 10:05 AM
Completed	Monday, 13 January 2025, 10:12 AM
Duration	6 mins 51 secs

Question **1**
Correct
Marked out of 1.00
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You are a bank account hacker. Initially you have 1 rupee in your account, and you want exact hacks, first hack can multiply the amount of money you own by 10, while the second can multiply the amount of money you own by 2. 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 %)

[Reset answer](#)

```
1  /*
2   * Complete the 'myFunc' function below.
3   *
4   * The function is expected to return an INTEGER.
5   * The function accepts INTEGER n as parameter.
6   */
7
8  int myFunc(int n)
9  {
10     if(n==1)
```

REC-CIS

```
14     if(n%10==0 && myFunc(n/10))
15         return 1;
16     if(n%20==0 && myFunc(n/20))
17         return 1;
18     return 0;
19
20 }
21
22
23
24
25
26
27
```


	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 N^{th} power

For example, if $X = 13$ and $N = 2$, we have to find all combinations of unique squares adding

Function Description

Complete the powerSum function in the editor below. It should return an integer that represe

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

REC-CIS

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 s

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

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 %)

[Reset answer](#)

```
1  /*
2  * Complete the 'powerSum' function below.
3  *
4  * The function is expected to return an INTEGER.
5  * The function accepts following parameters:
6  * 1. INTEGER x
7  * 2. INTEGER n
8  */
9
10 int powerSum(int x, int m, int n)
```

REC-CIS

```
14     power*=m;  
15     if(power==x)  
16         return 1;  
17     if(power>x)  
18         return 0;  
19     return powerSum(x-power,m+1,n) + powerSum(x,m+1,n);  
20 }
```

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

Passed all tests!