Week 12

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 can multiply it by 20. These hacks can be used any number of time. Can you achieve the desired amount N using these hacks.
Constraints:
1<=T<=100
1<=N<=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 or "0" otherwise.
SAMPLE INPUT
1
SAMPLE OUTPUT
1
SAMPLE INPUT
2
SAMPLE OUTPUT

Question 1

Marked out of 1.00

Correct

```
Reset answer
```

```
#include <stdio.h>
 2
 3 *
4
    * Complete the 'powerSum' function below.
 5
     * The function is expected to return an INTEGER.
 6
 7
     * The function accepts following parameters:
     * 1. INTEGER X
 8
9
     * 2. INTEGER n
     */
10
11 v int powerSum(int x, int m, int n) {
12
        int temp;
13
        temp=1;
14
        for(int i=1;i<=n;i++)
15
        temp=temp*m;
16
        if(temp==x)
17
            return 1;
18
         if(temp>x)
19
            return 0;
20
        return (powerSum(x,m+1,n)+powerSum(x-temp,m+1,n));
   }
21
```

Test	Expected	Got
<pre>printf("%d", powerSum(10, 1, 2))</pre>	1	1

Passed all tests!

Finish review

Quiz navigation



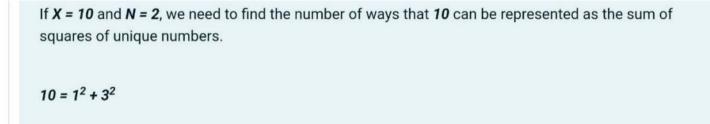
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Question 2
Correct
Marked out of 1.00
▼ Flag question
Find the number of ways that a given integer, X, can be expressed as the sum of the Nth powers of
unique, natural numbers.
For example, if $X = 13$ and $N = 2$, we have to find all combinations of unique squares adding up to 13.
The only solution 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 possible 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
4 - V - 1000
1 ≤ X ≤ 1000
2 ≤ N ≤ 10
Output Format
Output a single integer, the number of possible combinations calculated.
Sample Input 0
10
2
Sample Output 0
1

Explanation 0

I

I



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

2

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

```
Reset answer
```

```
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 3 *
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    * Complete the 'powerSum' function below.
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   }
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Test	Expected	Got
<pre>printf("%d", powerSum(10, 1, 2))</pre>	1	1

Passed all tests!

Finish review

Quiz navigation



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