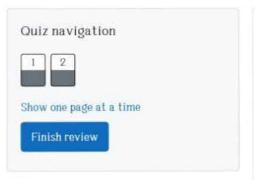
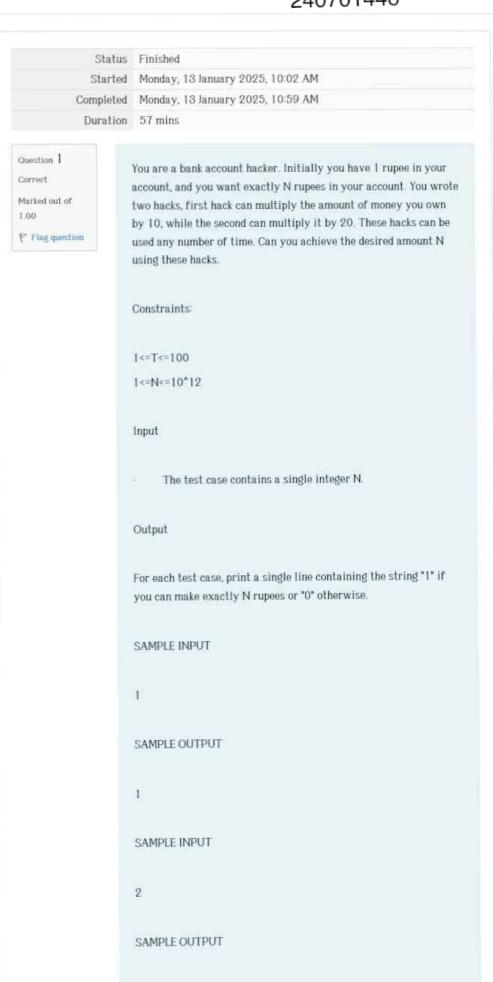
## GE23131-Programming Using C-2024

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0

```
Answer: (penalty regime: 0 %)
 Reset answer
    1 |#include<stdio.h>
        int myFunc(int n)
    3 + {
             if (n==1){
    5
                  return 1;
    6
             if(n%10!=0&&n%20!=0){
return 0;
    8
   10
11
12
             if((n%10==0&&myFunc(n/10))||(n%20==08
                  return 1;
   13
14
15
16
             return 0;
   17
        int Main(){
   18
             main(){
int n;
scanf("%d",&n);
printf("%d\n",myFunc(n));
return 0;
   20
   21
   22
   23
   24
```

	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!

Ouestion Z
Correct
Marked out of 1.00
F Flag question

Find the number of ways that a given integer, X, can be expressed as the sum of the  $N^{th}$  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

 $\ensuremath{\mathsf{N}}$  the integer power to raise numbers to

Input Format

The first line contains an integer X.

The second line contains an integer N.

Constraints

 $1 \le X \le 1000$ 

2 **SN S** 10

Output Format

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

Sample Input 0

10

2

Explanation

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

```
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

.

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

N.

## 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 |#include<stdio.h>
      #include<math.h>
     int powerSum(int x, int m, int n)
 3
 4 + {
          if(x<0){
               return 0;
          if(x==0){
 8 +
 9
               return 1;
10
11
          if(m>x){
               return 0;
13
14
15
           int p = pow(m,n);
return powerSum(x-p,m+1,n)+powerSum(x
16 }
17 int Main(){
18 int x,n;
19 scanf("%
          int x,n;
scanf("%d",&x);
scanf("%d",&n);
printf("%d\n",powerSum(x,1,n));
20
21
22
23
           return 0;
```

```
Test Expected G

rintf("%d", powerSum(10, 1, 2)) 1 1

Passed all tests! ✓
```