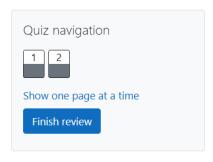
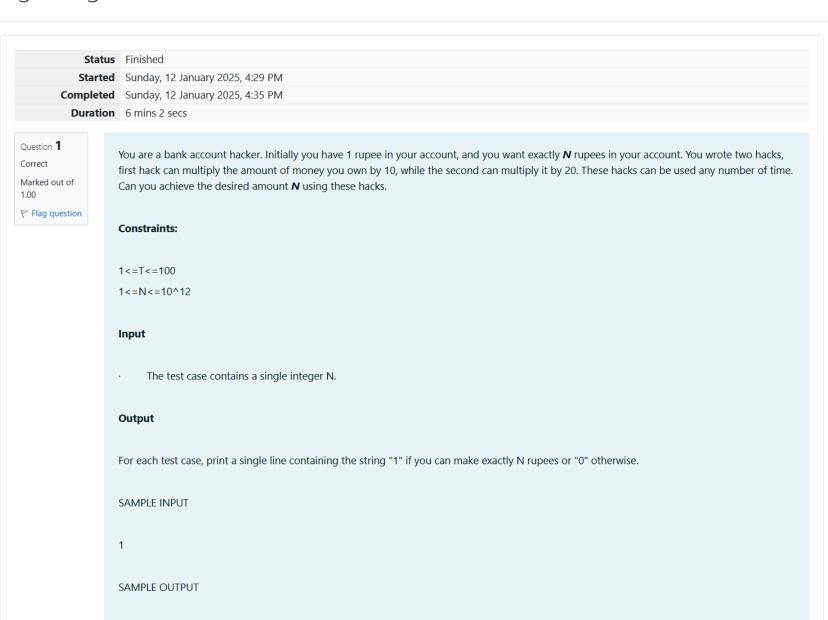
# GE23131-Programming Using C-2024

1





```
SAMPLE INPUT
2
SAMPLE OUTPUT
Answer: (penalty regime: 0 %)
 Reset answer
        * Complete the 'myFunc' function below.
   3
        * The function is expected to return an INTEGER.
   4
       * The function accepts INTEGER n as parameter.
   5
   6
   7
   8
       int myFunc(int n)
   9 .
          if(n==1||n==200){
  10
  11
              return 1;
  12
  13 1
          if(n<=0||n>100){
              return 0;
  14
  15
          if(myFunc(n/10)){
  16
  17
          return 1;
  18
  19
          return 0;
  20
```

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

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21

0

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**<sup>th</sup> 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

 $1 \le X \le 1000$ 

 $2 \le N \le 10$ 

#### **Output Format**

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

### Sample Input 0

10

2

#### 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 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

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

## **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
```

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

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

Passed all tests! <

Finish review