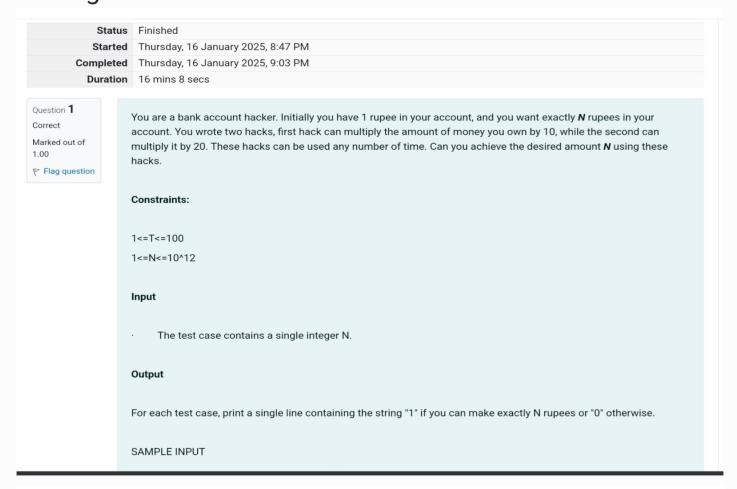
# Week-12-User-Defined Functions

# Coding



	Test	Expected	Got	
~	<pre>printf("%d", myFunc(1))</pre>	1	1	~
~	<pre>printf("%d", myFunc(2))</pre>	0	0	~
~	<pre>printf("%d", myFunc(10))</pre>	1	1	~
~	<pre>printf("%d", myFunc(25))</pre>	0	0	~
~	<pre>printf("%d", myFunc(200))</pre>	1	1	~
Passe	ed all tests! 🗸			

Question 2

Correct Marked out of 1.00 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.

Flag question

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  ${\it N}$ .

### Constraints

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

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  ${f 10}$  can be expressed as the sum of unique squares.

```
Sample Input 1

100
2

Sample Output 1

3

Explanation 1

100 = (10<sup>2</sup>) = (6<sup>2</sup> + 8<sup>2</sup>) = (1<sup>2</sup> + 3<sup>2</sup> + 4<sup>2</sup> + 5<sup>2</sup> + 7<sup>2</sup>)

Sample Input 2

100
3

Sample Output 2

1

Explanation 2
```

	Test	Expected	Got		
~	printf("%d", powerSum(10, 1, 2))	1	1	~	
Passed all tests! ✓					