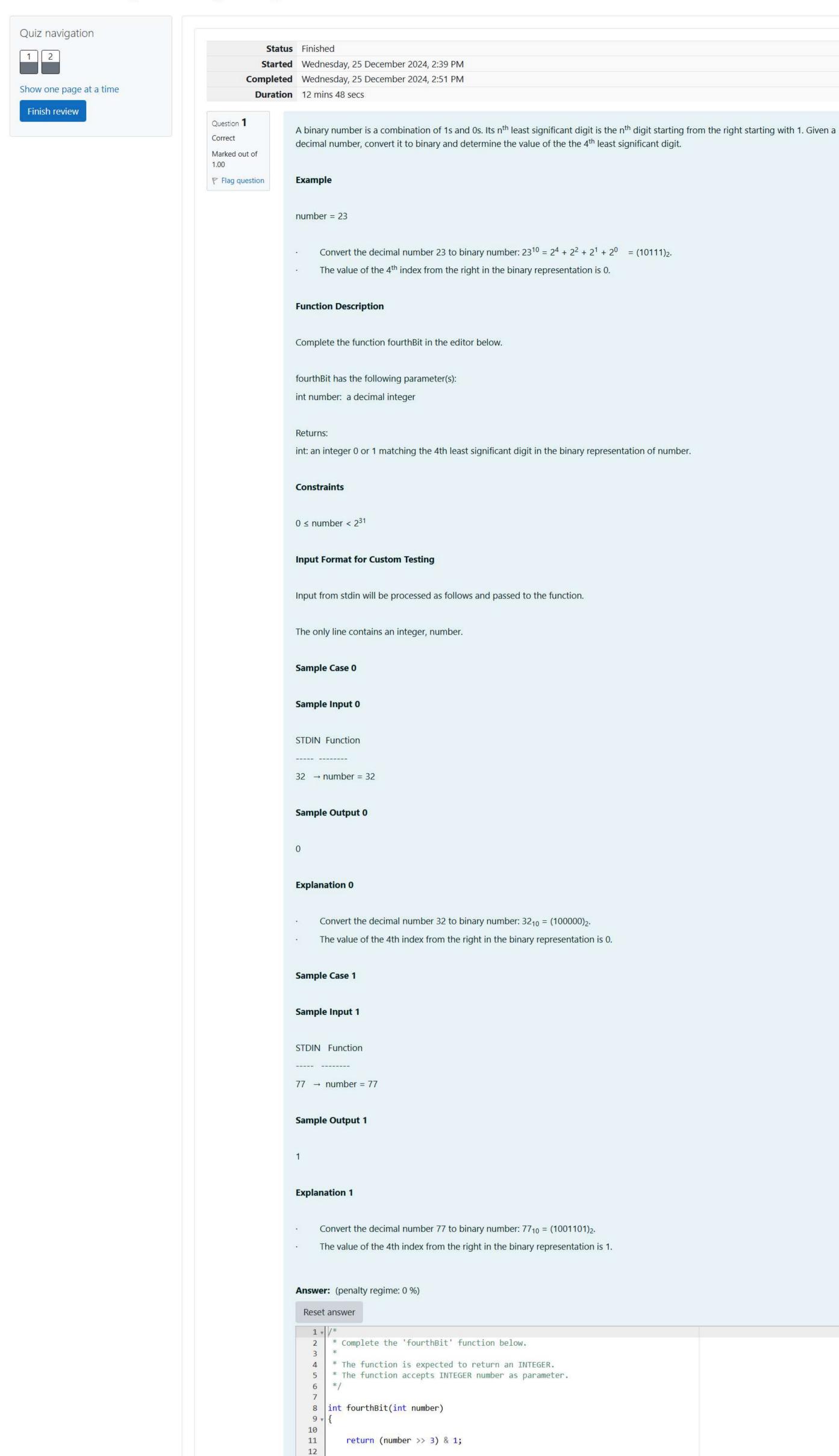
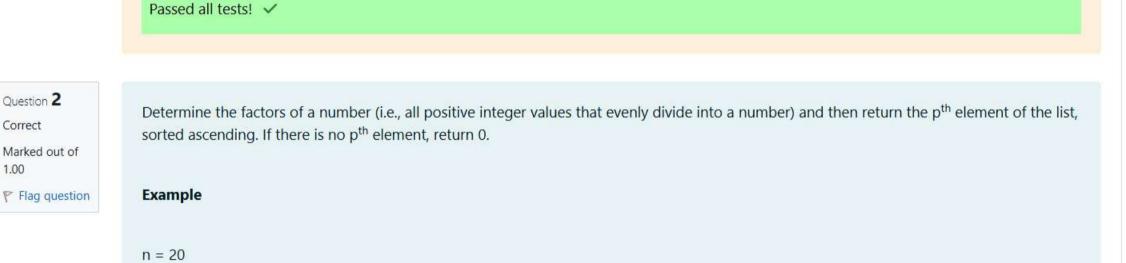
REC-CIS

GE23131-Programming Using C-2024





Expected Got

Question 2

Marked out of

Correct

1.00

Complete the function pthFactor in the editor below.

The factors of 20 in ascending order are $\{1, 2, 4, 5, 10, 20\}$. Using 1-based indexing, if p = 3, then 4 is returned. If p > 6, 0 would be returned.

int: the long integer value of the pth integer factor of n or, if there is no factor at that index, then 0 is returned Constraints

Returns:

p = 3

Function Description

13 }

Test

printf("%d", fourthBit(32)) 0

printf("%d", fourthBit(77)) 1

 $1 \le n \le 10^{15}$ $1 \le p \le 10^9$

Input Format for Custom Testing

pthFactor has the following parameter(s):

int n: the integer whose factors are to be found

int p: the index of the factor to be returned

The second line contains an integer p, the 1-based index of the factor to return.

Sample Input 0 STDIN Function

The first line contains an integer n, the number to factor.

Input from stdin will be processed as follows and passed to the function.

$10 \rightarrow n = 10$

Sample Case 0

5 **Explanation 0**

 $3 \rightarrow p = 3$

Sample Output 0

Sample Input 1

Sample Case 1

STDIN Function $10 \rightarrow n = 10$

Factoring n = 10 results in $\{1, 2, 5, 10\}$. Return the $p = 3^{rd}$ factor, 5, as the answer.

$5 \rightarrow p = 5$

Sample Output 1

Factoring n = 10 results in $\{1, 2, 5, 10\}$. There are only 4 factors and p = 5, therefore 0 is returned as the answer.

Explanation 1

0

Sample Case 2 Sample Input 2

STDIN Function

Sample Output 2

 $1 \rightarrow n=1$ $1 \rightarrow p = 1$

1 **Explanation 2**

Answer: (penalty regime: 0 %)

4 5

6

7 8

10 11 *

12 13

14

15 16

17 *

18

19 20

Reset answer * Complete the 'pthFactor' function below. 3

* The function accepts following parameters:

* 1. LONG_INTEGER n

* 2. LONG INTEGER p

long i,count=0;

long pthFactor(long n, long p)

for (i=1; i<=n; i++) {

if (n%i == 0) {

count ++;

if (count == p) {

return i;

Factoring n = 1 results in {1}. The p = 1st factor of 1 is returned as the answer.

* The function is expected to return a LONG_INTEGER.

```
21
 22
 23
         return 0;
 24 }
                                  Expected Got
     Test
 ✓ printf("%ld", pthFactor(10, 3)) 5
    printf("%ld", pthFactor(10, 5)) 0
 printf("%ld", pthFactor(1, 1)) 1
                                            1
Passed all tests! <
```

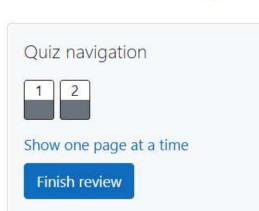
REC-CIS

GE23131-Programming Using C-2024

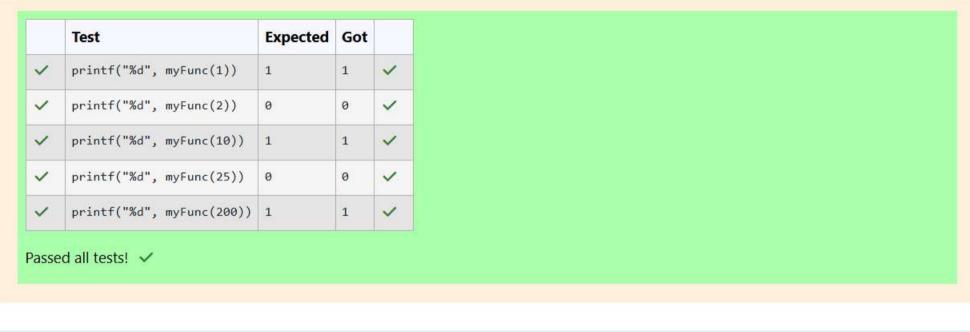
Question 1

Correct

1.00







```
Question 2
                   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.
Correct
Marked out of
1.00
                   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.
Flag question
                    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 ≤ 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 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
                            * Complete the 'powerSum' function below.
                        3
                             * The function is expected to return an INTEGER.
                            * The function accepts following parameters:
                             * 1. INTEGER X
                            * 2. INTEGER n
                           #include<math.h>
                       10
                            int powerSum(int x, int m, int n)
```

```
Expected Got
      Test
 ✓ printf("%d", powerSum(10, 1, 2)) 1
Passed all tests! <
                                                                                                                Finish review
```

11 * { 12

13

14 •

15 16

21

23 }

int p=pow(m,n);

return 1;

return powerSum(x-p,m+1,n) + powerSum(x,m+1,n);

if(p==x)

if(p>x)