Week-12-User-Defined Functions



Coding

Question 1
Correct
Marked out of 1.00
Flag question

A binary number is a combination of 1s and 0s. Its nth least significant digit is the nth digit starting from the right starting with 1. Given a decimal number, convert it to binary and determine the value of the the 4th least significant digit.

Example

number = 23

- Convert the decimal number 23 to binary number: $23^{10} = 2^4 + 2^2 + 2^1 + 2^0 = (10111)_2$.
- · The value of the 4th index from the right in the binary representation is 0.

Function Description

Complete the function fourthBit in the editor below.

fourthBit has the following parameter(s):

int number: a decimal integer

Returns

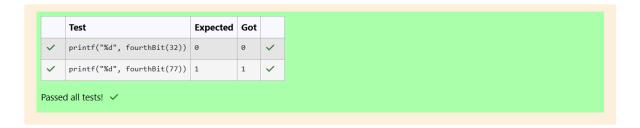
int: an integer 0 or 1 matching the 4th least significant digit in the binary representation of number.

Constraints

 $0 \le \text{number} < 2^{31}$

Source code:

Result:



Question **2**Correct
Marked out of 1.00

F Flag question

Determine the factors of a number (i.e., all positive integer values that evenly divide into a number) and then return the p^{th} element of the list, sorted ascending. If there is no p^{th} element, return 0.

Example

n = 20

p = 3

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.

Function Description

Complete the function pthFactor in the editor below.

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

Returns:

int: the long integer value of the p^{th} integer factor of n or, if there is no factor at that index, then 0 is returned

Source code:

```
* Complete the 'pthFactor' function below.
      ^{\ast} The function is expected to return a LONG_INTEGER. ^{\ast} The function accepts following parameters:
4
5
      * 1. LONG_INTEGER n
6
     * 2. LONG_INTEGER p
     long pthFactor(long n, long p)
10
11
          int count=0;
12
13
          for(int i=1;i<=n;i++)</pre>
14
15
              if(n%i==0)
16
17
                   count++:
                   if(count==p)
18
19
20
                        return i;
21
22
              }
23
24
          return 0:
25 }
```

Result:

