# RITTVIK S 2024-CSE 2116240701616

## Week-12-User-Defined Functions

### Coding

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

**Source code**

```
1  /*
2   * Complete the 'fourthBit' function below.
3   *
4   * The function is expected to return an INTEGER.
5   * The function accepts INTEGER number as parameter.
6   */
7
8  int fourthBit(int number)
9  {
10     int i =4,sum;
11     while(i--)
12     {
13         if(number%2==0)
14         sum =0;
15         else
16         sum =1;
17         number = number /2;
18     }
19     return sum;
20
21 }
```

## Output

| | Test | Expected | Got | |
|---|---|---|---|---|
| ✓ | `printf("%d", fourthBit(32))` | 0 | 0 | ✓ |
| ✓ | `printf("%d", fourthBit(77))` | 1 | 1 | ✓ |

Passed all tests! ✓

## Result

The above program is executed successfully and provides the above output.

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.

## Source code

```
1 ▾ /*
2      * Complete the 'pthFactor' function below.
3      *
4      * The function is expected to return a LONG_INTEGER.
5      * The function accepts following parameters:
6      *   1. LONG_INTEGER n
7      *   2. LONG_INTEGER p
8      */
9
10  long pthFactor(long n, long p)
11 ▾ {
12       int count=0,i=1;
13       while(count!=p)
14 ▾     {
15           if(n%i==0)
16               count ++;
17           else if (i>n)
18               return 0;
19           i++;
20       }
21       return i-1;
22  }
```

## Output

| | Test | Expected | Got | |
|---|---|---|---|---|
| ✓ | printf("%ld", pthFactor(10, 3)) | 5 | 5 | ✓ |
| ✓ | printf("%ld", pthFactor(10, 5)) | 0 | 0 | ✓ |
| ✓ | printf("%ld", pthFactor(1, 1)) | 1 | 1 | ✓ |

Passed all tests! ✓

## Result

The above program is executed successfully and provides the above output.