

Pass Task 2.2P: Recursion Factorial

Task description:

The factorial of a nonnegative integer n , written $n!$ (pronounced “ n factorial”), is the product of $n * (n - 1) * (n - 2) * \dots * 1$. And

$$1! = 1$$

$$0! = 1$$

Recursive definition of the factorial function $n! = n * (n - 1)!$ Example:

$$5! = 5 * 4 * 3 * 2 * 1$$

$$5! = 5 * (4 * 3 * 2 * 1)$$

$$5! = 5 * (4!)$$

Define a function which accepts a passed argument and calculates its factorial. A program accepts user's input and calls the function. (Please use recursive function call in the function definition.)

(Sample output as shown in the following figure is for demonstration purposes only.)

```
In [20]: runfile('C:/tmp/units/2020/SIT384-2020-1/portfolio/week2/Task2.2P.py', wdir='C:/tmp/units/2020/SIT384-2020-1/portfolio/week2')
```

```
Please input a nonnegative integer? -2
Please enter a nonnegative integer

Please input a nonnegative integer? 0
Factorial of 0 :
1
```

```
In [21]: runfile('C:/tmp/units/2020/SIT384-2020-1/portfolio/week2/Task2.2P.py', wdir='C:/tmp/units/2020/SIT384-2020-1/portfolio/week2')
```

```
Please input a nonnegative integer? 5
Factorial of 5 :
120
```

Submission:

Submit the following files :

1. Your program source code (e.g. task2-2.py)
2. A screen shot of your program running

Check the following things before submitting:

1. Add proper comments to your code