Solution Review: Factorial of a Number

This lesson will explain the solution to the factorial exercise in the previous chapter.

WE'LL COVER THE FOLLOWING

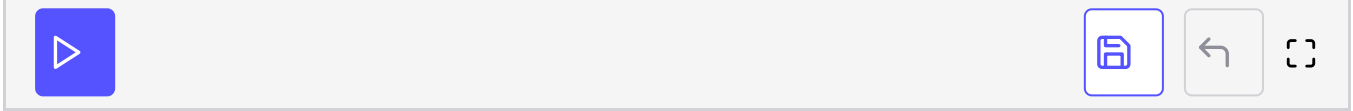
Solution

```
def factorial(n):
    # Cover base cases
    if n==0 or n==1:
        return 1
    if n < 1:
        return -1

    # multiply all postiive integers below n
    product = 1
    while(n > 1):
        product = product * n
        n = n-1

    return product

print(factorial(5))
```



Explanation

The function starts with handling the edge cases. We know that for `n==0` and `n==1`, we need to return `1`. Therefore, we write an `if` statement with an `or` in between the conditions in **line 2**, so that if any of these is `True`, we return `1`. Then we handle the case if `n` is a negative number in **line 4**. We return `-1` in **line 5**.

After handling the edge cases, now comes the main part. We initialize a

After handling the edge cases, now comes the main part. We initialize a variable `product` with value `1` in **line** 7. Our aim is to keep multiplying a number to this `product` and decrease that number in every iteration of the loop. Therefore, we use a `while` loop in **line** 7. The while loop will keep running as long as `n` is greater than `1`. In **line 9**, we multiply `product` with `n`, and store the answer in `product`. This means the value of `product` is being updated in every iteration of the loop. We decrease `n` by `1` in **line 10** so that in every iteration `product` is multiplied with the updated `n`.

This brings the end of this chapter. Now you have the basic Python knowledge to move towards handling data in Python in the next chapter.