

Callables Can Have Hysteresis

```
class Factorial:
```

```
    def __init__(self):  
        self.previous = {}
```

```
    def __call__(self, n: int) -> int:  
        if n not in self.previous:  
            self.previous[n] = self.compute(n)  
        return self.previous[n]
```

```
    def compute(self, n: int) -> int:  
        if n == 0: return 1  
        return n*self.__call__(n-1)
```

We'll Break This Down Below

Initializer

```
def __init__(self):  
    self.previous = {}
```

- ◆ Creates a cache of values named **previous**
- ◆ This is a technique called "memoization"