

The Syracuse Generator

```
def syracuse_iter(n):  
    yield n  
    while n != 1:  
        n = syracuse(n)  
        yield n
```

- ◆ Will *yield* the number,
- ◆ While $n \neq 1$, will apply the function and *yield* each subsequent value.
- ◆ And it's lazy!
 - ◆ Won't create a big list if stopped early

Using a Generator Function

```
>>> for i in syracuse_iter(3):  
...     print(i)  
3  
10  
5  
16  
8  
4  
2  
1
```