

# Generators

- Any procedure or method with a `yield` statement is called a **generator**

```
def genTest():  
    yield 1  
    yield 2
```

- `genTest()`  $\Rightarrow$  <generator object genTest at 0x201b878>
- Generators have a `next()` method which starts/resumes execution of the procedure. Inside of generator
  - `yield` suspends execution and returns a value
  - Returning from a generator raises `StopIteration` exception

## Fix to Grades class

Before

```
def allStudents(self):  
    if not self.isSorted:  
        self.students.sort()  
        self.isSorted = True  
    # return copy of student list  
    return self.students[:]
```

After

```
def allStudents(self):  
    if not self.isSorted:  
        self.students.sort()  
        self.isSorted = True  
    for s in self.students:  
        yield s
```