Basic Python Modules

A Quick Preview of a Program Organization Tool

Files and Module

- Python source code are stored in files with suffix .py
- Some files are “scripts” and are meant to be executed to accomplish some tasks
- Other files are “libraries” or “modules” that contain a collection of (hopefully) related data and/or functions that provide functionality used by one or more scripts

Module Syntax

- module.py

```
def gcd(a, b):
    if b == 0:
        return a
    return gcd(b, a % b)
```

- caller1.py

```
from module import *
print gcd(165, 105)
```

- caller2.py

```
import module
print module.gcd(75, 100)
```

Why use Modules?

- If some functions are required by more than one script, it is easier to maintain a single copy in a module rather than multiple copies of (eventually non-)identical code in several scripts
- When working on large projects, dividing up code into smaller logical pieces simplifies development and maintenance

Standard Python Modules

- Python comes with “batteries included”, which generally refers to its large standard library containing modules providing many common functionality
  - Network/web programming (CGI, server)
  - File compression (zip, gzip)
  - Data manipulation (binary, XML)

More Modules

- http://pypi.python.org/pypi
- Official “Python Package Index” has many more Python packages
- Check pypi before you start on your final project