Python : Import

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Import Modules

- Modules: File containing Python definitions and Statements

- We can import module definition from one file to another

  import <module_name>

  Example:

```
import math
import numpy
import random
```

Access Module Function

- A module can contain variables
- A module can contain function
- To access the variables and functions use dot operator

module.variables
module.function

Example:

```
math.sin(30)
math.pi
random.randint(100)
```

More on Modules

- Further module can contain
  - Executable statements with Function definitions
  - Its own private symbol table : Global symbol for all functions of the module
- Module Search Path
  1. Current directory
  2. List of directories specified in PYTHONPATH

Reload Modules

- When we specify ***import <module_name>***
  - You can access each of its function as
  - *module.function()*
- When you have modified a few functions in module
  - You should restart your interpreter
  - Alternatively, you can reload the module
  - E.g.: `import importlib`
  - `importlib.reload(module_name)`

- When a very large application is developed with multiple submodules, you can’t import all submodules at one go.
- ***from <module_name> import ****
  - It does not import all submodules from a package
    - E.g: `from scipy import *` does not import scipy.integrate
  - Make sure, you have imported required packages properly
    - E.g: `from scipy.integrate import *`
    - `import scipy.integrate`

Import Part of Modules

- ***from <module_name> import <name(s)>***
  - You can also integrate a few specific module
    - E.g: `from scipy.integrate import quadrature,trapz`

Import Module as

- ***from <module_name> import <name(s)> as <alt_name>***
  - You can import a module and given alternative name
  - E.g: `import numpy as np`
  - `import matplotlib as mpl`
  - `import matplotlib.pyplot as plt`

https://realpython.com/python-modules-packages/#python-packages

End of Python File Processing