

CSE 20 6-2-20

1

Ex. Matrix.py

Exercise: add a function that multiplies two matrices, and returns the result, if you know what that is.

note: if $0 \leq x < 1$, then

$$0 \leq (b-a)x < (b-a)$$

$$a \leq a + (b-a)x < b$$

Namespace

a Namespace is a collection of identifications belonging to a module, or to a function, or to other structures.

Each module has its own namespace.

Ex. Namespace.Py

Any file containing Python code constitutes a module

file: Prog.py

module: Prog

namespace: Prog

In Python have a 1-1 correspondence

file $\leftrightarrow$ module $\leftrightarrow$ namespace

Scope

The scope of an identifier is the region of the program where it can be accessed.

Three scopes

- Local Scope: within a fn. def

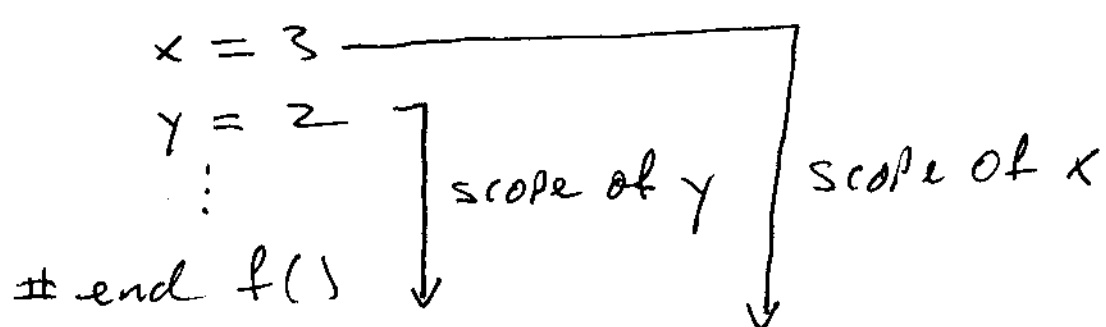
```
def f():
```

```
    x = 3
```

```
    y = 2
```

```
    :
```

```
# end f()
```



• Global Scope : within current module

```
# module.py
```

```
def f():
    :
# end f()
```

scope of f()

```

x = 6
:
# end module
```

scope of x

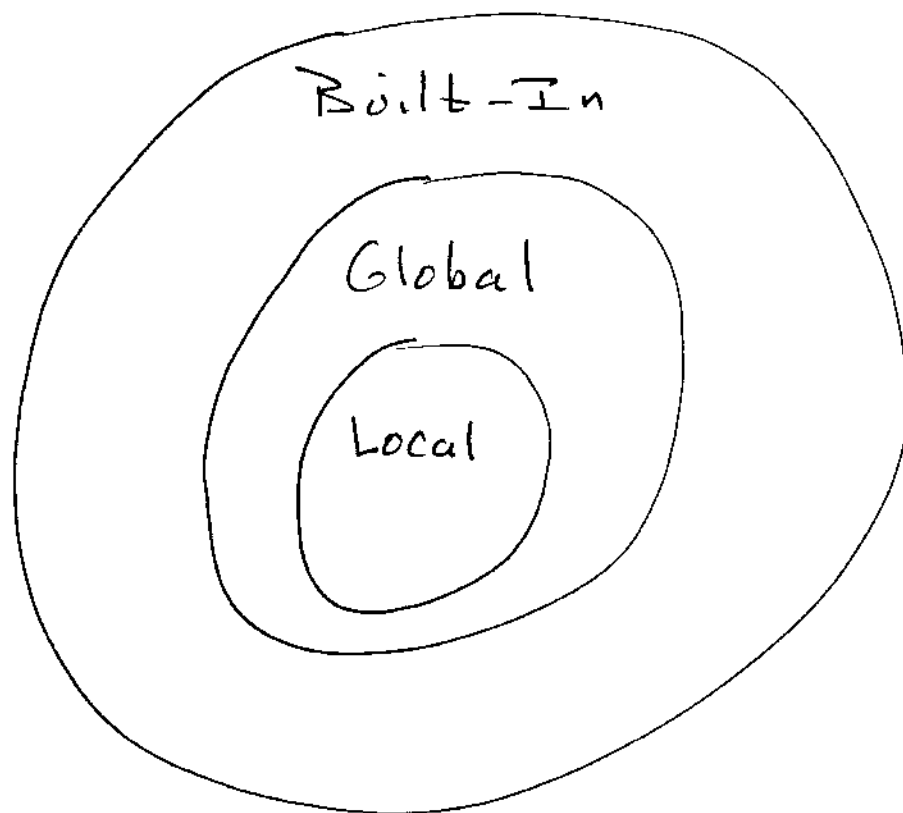
• Built-in Scope :

all built-in identifiers, funcs mostly

```
Print()
sum()
range()
:
```

Rule:

when there are name collisions,
the inner-most scope takes
precedence



note:

`del var`

removes the binding of 'var' to its
local or global namespace.

Variations on import:

- import math

$x = \text{math.sqrt}(10)$

- from math import sqrt

$x = \text{sqrt}(10)$

- from math import * #everything

$x = \text{sqrt}(10)$

- import math as m

$x = m.\text{sqrt}(10)$

- from math import sqrt as s

$x = s(10)$

Ex. Scope.Py

Functions cannot write to variables in global scope. They can read from them though.

Next time:

chap 14 : files