Python Variables

- Variables are **containers** for storing data values
- Unlike other programming languages, Python **has no command for declaring a variable**.
- A variable is **created the moment you first assign a value to it**

```
x=5
y="John"
print(x)
print(y)
```

Python Variables

- Variables do not need to be declared with any particular type and can **even change type after they have been set.**

```
x = 4 # x is of type int
x = "Sally" # x is now of type str
print(x)
```

Python Variables

- A variable can have a short name (like x and y) or a more descriptive name (***age***, ***carname***, ***total_volume***). Rules for Python variables:
  - A variable name must **start with a letter or the underscore character**

```
x=3 or x1=3 or x_0=3
_x=3 or _xy=0
```

  - A variable name **cannot start with a number**

```
2x=3
```

Python Variables

- Rules for Python variables:
  - A variable name can **only contain alpha-numeric characters and underscores** (A-z, 0-9, and _)

```
x3_=3
_x3=3
```

  - Variable names are **case-sensitive** (age, Age and AGE are three different variables)

```
age=3
Age=3
```

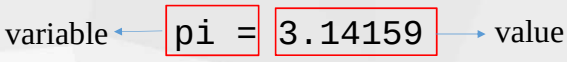
Python Variables

- A variable name can not be the preserved word in Python

and	elif	import	raise	global
as	else	in	return	nonlocal
assert	except	is	try	True
break	finally	lambda	while	False
class	for	not	with	None
continue	from	or	yield	
def	if	pass	del	

Binding Variables and Values

- equal sign is an **assignment** of a value to a variable name



  - value stored in computer memory
  - an assignment binds name to value

Binding Variables and Values

- Python allows you to assign values to multiple variables in one line:

```
x, y, z = "Orange", "Banana", "Cherry"
print(x)
print(y)
print(z)
x, y, z =1,2,3
```

- To combine both text and a string variable, Python uses the + :

```
x = "awesome"
print("Python is " + x)
```

```
x = 3
print("Python is " + str(x))
```