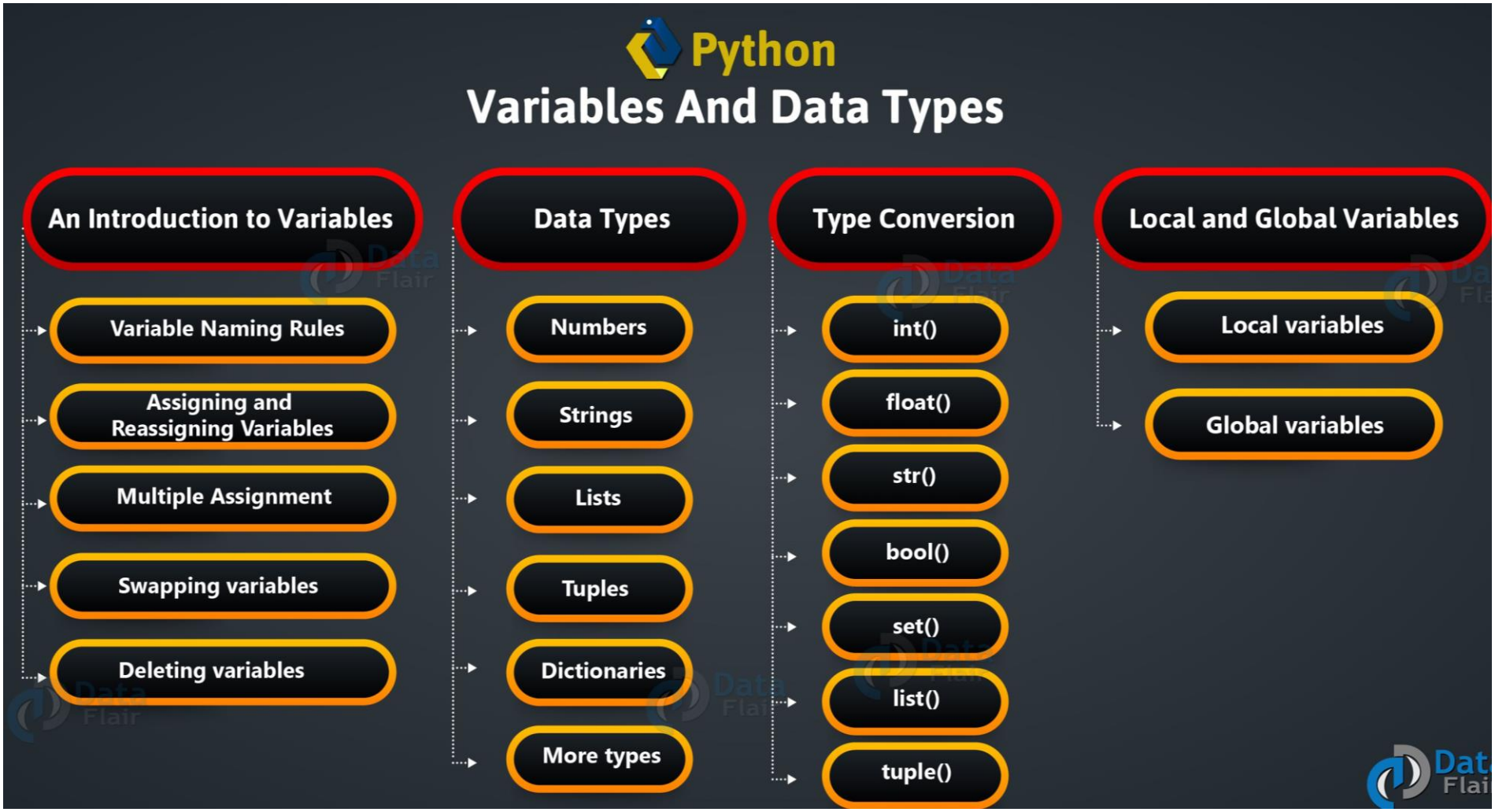
Python 3.7

2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Variables – Naming Rules

Introduction to Python

- **Python Identifiers**
- **A Python identifier is a name used to identify a**
- **variable,**
- **function,**
- **class,**
- **module or**
- **other object.**
- **Python does not allow punctuation characters such as @, $, and % within identifiers.**
- **Python is a case sensitive programming language.**
- **Thus, Manpower and manpower are two different identifiers in Python.**

Identifier

- **Since we know that Python is a dynamically-typed language, we don't specify the type of a variable when declaring one.**
- **A variable is a container for a value.**
- **It can be assigned a name, you can use it to refer to it later in the program.**
- **Based on the value assigned, the interpreter decides its data type.**
- **You can always store a different type in a variable.**
- **For example:**

Identifier Naming Rule

- **Rule 1: An identifier starts with a letter A to Z or a to z or an underscore (_) followed by zero or more letters, underscores and digits (0 to 9).**
- **>>> A = 7**
- **>>> print(A)**
- **7**
- **>>> A = Umesh**

Traceback (most recent call last):

File "<stdin>", line 1, in <module>

NameError: name 'umesh' is not defined

- **>>> A = "Umesh"**
- **>>> print(A)**
- **Umesh**

Identifier Naming Rule

- Rule 2: The rest of the identifier may contain letters(A-Z/a-z), underscores(_), and numbers(0-9).
- >>> year2 = 2018
- >>> year2
- 2018

Identifier : Naming Rules

- Rule 3: Python is case-sensitive, and so are Python identifiers. Name and name are two different identifiers.
- name='Ayushi'
- >>> name
- 'Ayushi'
- >>> Name
- Traceback (most recent call last):
- File "<pyshell#21>", line 1, in <module>
- Name

Identifier : Naming Rules

- Rule 3: Reserved words (keywords) cannot be used as identifier names.

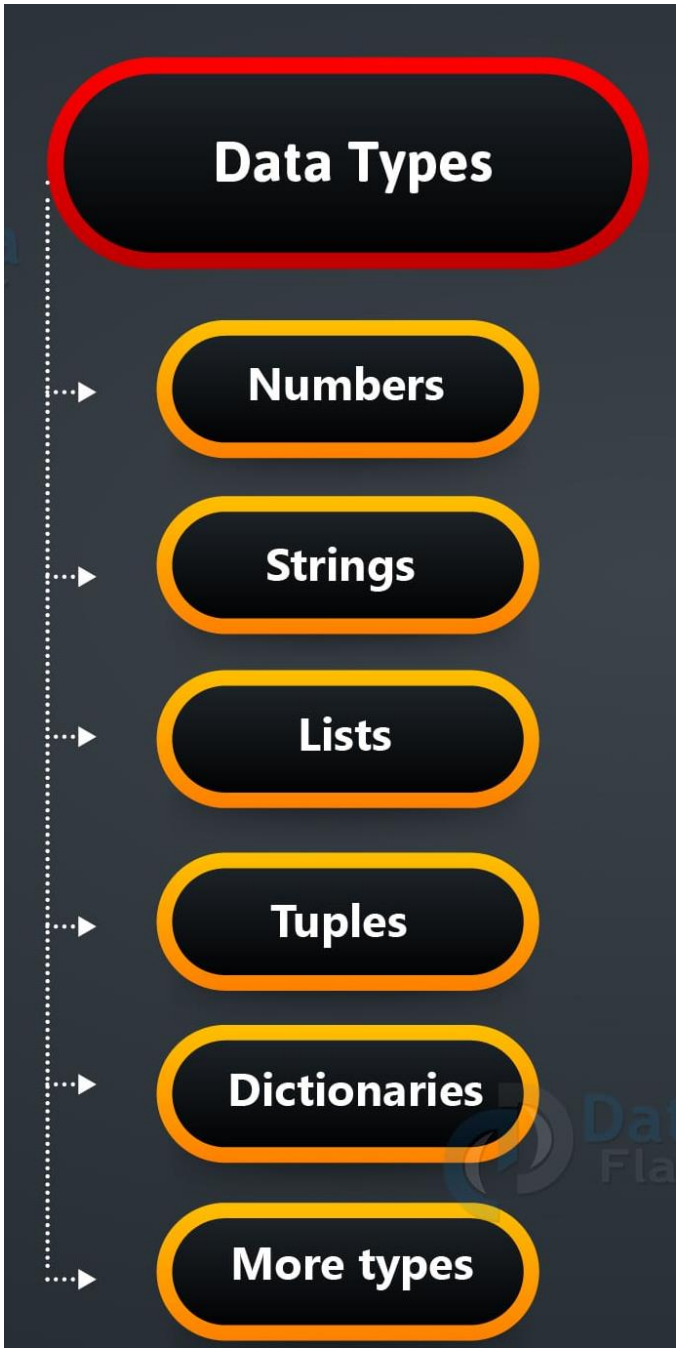
and	def	False	import	not	True
as	del	finally	in	or	try
assert	elif	for	is	pass	while
break	else	from	lambda	print	with
class	except	global	None	raise	yield
continue	exec	if	nonlocal	return	

Identifier

- Python variables can only begin with a letter(A-Z/a-z) or an underscore(_).
- >>> 9A = 9
- File "<stdin>", line 1
- 9A = 9
- ^
- SyntaxError: invalid syntax

Identifier : Naming Rule

- **Rule 4: Assigning and Reassigning Python Variables**
- To assign a value to Python variables, you don’t need to declare its type. You name it according to the naming rules, and type the value after the equal sign(=).
- >>> age=7
- >>> **print**(age)
- 7
- >>> age='Dinosaur'
- >>> print(age)
- Dinosaur


Data Types
Numbers
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More types

Number Data Type

- **Numeric Types -- int, float, long, complex**
- **There are four distinct numeric types:**

1. ***plain integers*,**
2. ***long integers*,**
3. ***floating point numbers*, and**
4. ***complex numbers*.**

- **In addition, Booleans are a subtype of plain integers.**
- **Plain integers (also just called *integers*) are implemented using long in C, which gives them at least 32 bits of precision.**
- **Long integers have unlimited precision.**

Number Data Type

- **Numeric Types -- int, float, long, complex**
- **Floating point numbers are implemented using double in C.**