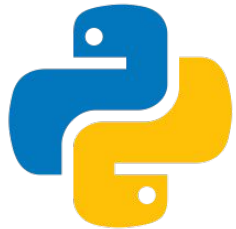
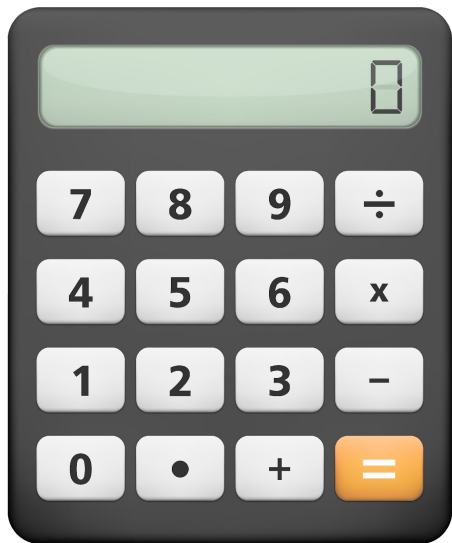


Chapter 2: Python Data Types

Int, Float, String & Lists

Resource: Introduction to Computing Using Python by Ljubomir Perkovic

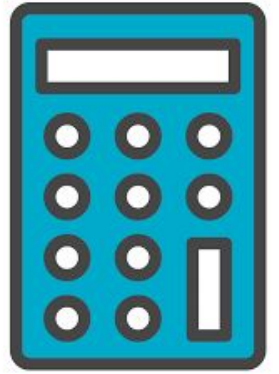




=



Python: The Great Calculator



Algebraic Expressions

- Integer or int
- Floating point or float

Boolean Expressions

- Boolean (True, False)
- Boolean expressions (and, or, not)

Variables



Variable Names:

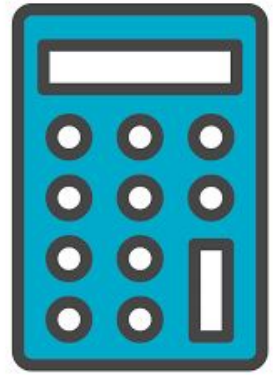
- Lowercase (a-z)
- uppercase (A-Z)
- underscore (_)
- digits (0-9) EXCEPT THE FIRST CHARACTER!!!
- CANNOT be reserved keywords

Examples:

- myList, _list, list6, l_2 OK
- 51list, list-3 NOT OK
- O, l (el), l (eye) NOT OK
- ***** note: myList & myList are different!!! Case sensitive! *****

Good practice:

- Be explicit!
 - Name `price` better than name `p`
- Multiple word name
 - Use underscore or camelCase
 - Interest_rate, InterestRate
- Pick one style and be consistent!
- Shorter meaningful names better than longer ones!
 - user_name, better
 - name_input_from_user, less better

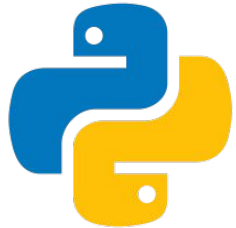


Reserved keywords

PEP8 style guide: <https://www.python.org/dev/peps/pep-0008/#naming-conventions>

The below names are used as reserved keywords of the Python language. You cannot use them other than as Python commands.

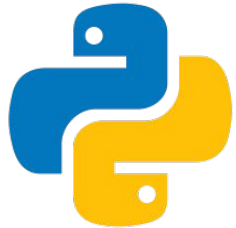
False	break	else	if	not	while
None	class	except	import	or	with
True	continue	finally	in	pass	yield
and	def	for	is	raise	
as	del	from	lambda	return	
assert	elif	global	nonlocal	try	



Strings

String, denoted ``str``

- Represent/manipulate text data (sequence of characters)
 - Blanks
 - Punctuation
 - Symbols
- Enclosed within matching quotes; either single quotes (') or double quotes ("). If it's a huge string then triple quotes; triple single quotes (''') or triple double quotes (""")



Strings

Concatenate (+)

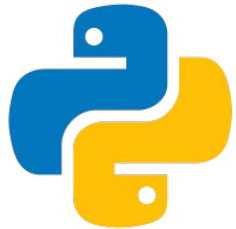
Multiply (*)

in/boolean operator

Substring

len

Indexing operator



Indexing Operator []

Index:

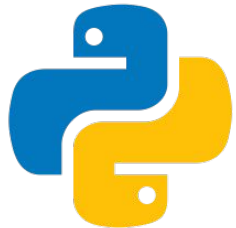
- Index of character in string = character's offset (position in string) with respect to first character
- Count starts at 0....n
 - First character has index 0
 - Second character has index 1 (one away from first character)
- Going backwards:
 - Use negative indexes to access characters from the back
 - Last character has index -1

Negative Index

s

Index

	-5	-4	-3	-2	-1
	h	e	l	l	o
	0	1	2	3	4



Lists []

Organization

Certain order

List = sequence of objects of any type
(numbers, strings, lists, etc)

- Comma separated sequence of objects
enclosed within square brackets

Mutable unlike strings (immutable)

Read the docs: <https://docs.python.org/3/tutorial/datastructures.html>

Indexing operators

in/boolean operator

Concatenate

max/min/sum

Append/count/remove/reverse/sort



