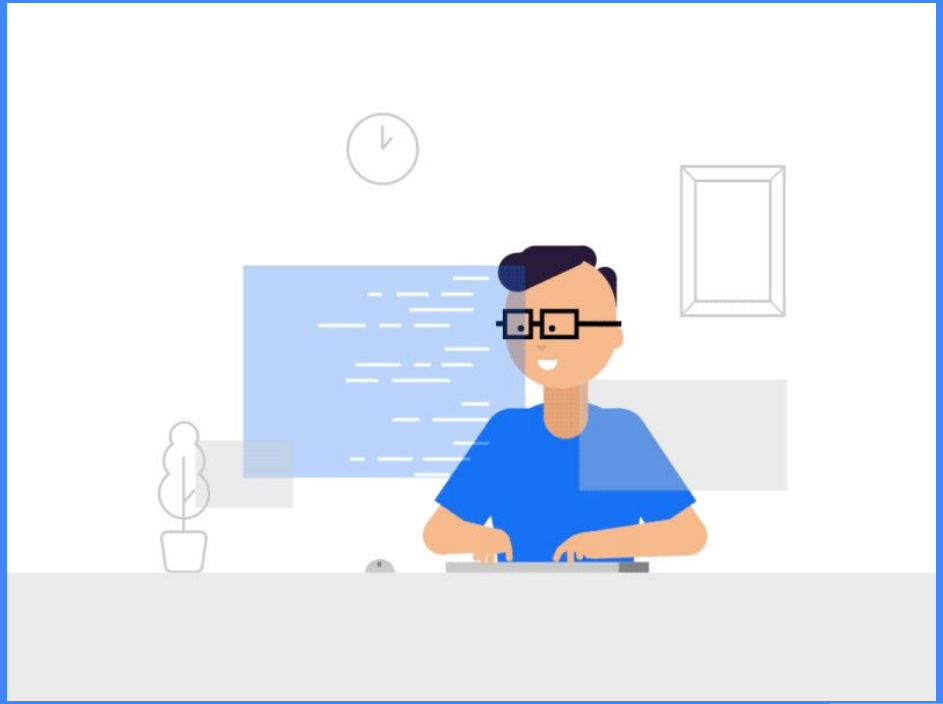
Working with Python



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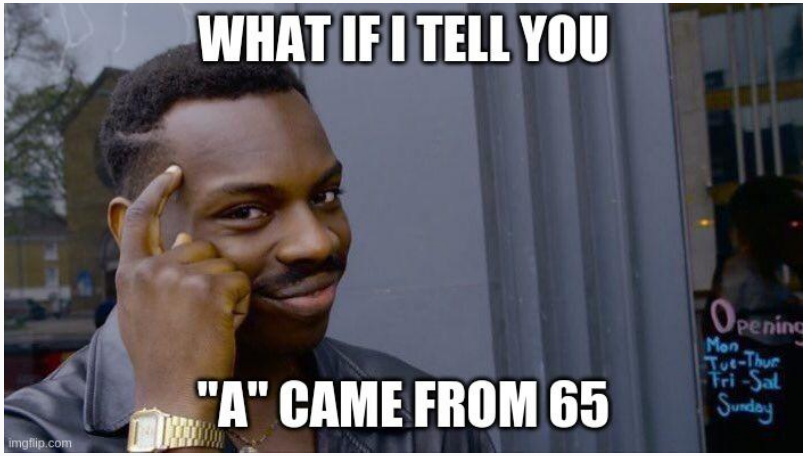
Key Takeaways/Outline

- Python Character Set
- Token
  - Identifiers
  - Keywords
  - Literals
  - Delimiters
  - Operators
- Variables
- Comments

What are character sets?

- A character set provides a key to unlock (ie. crack) the code.
- It is a set of mappings between the bytes in the computer and the characters in the character set.
- Python uses the traditional ASCII character set. The latest version also recognizes the Unicode character set.
- The ASCII character set is a subset of the Unicode character set.



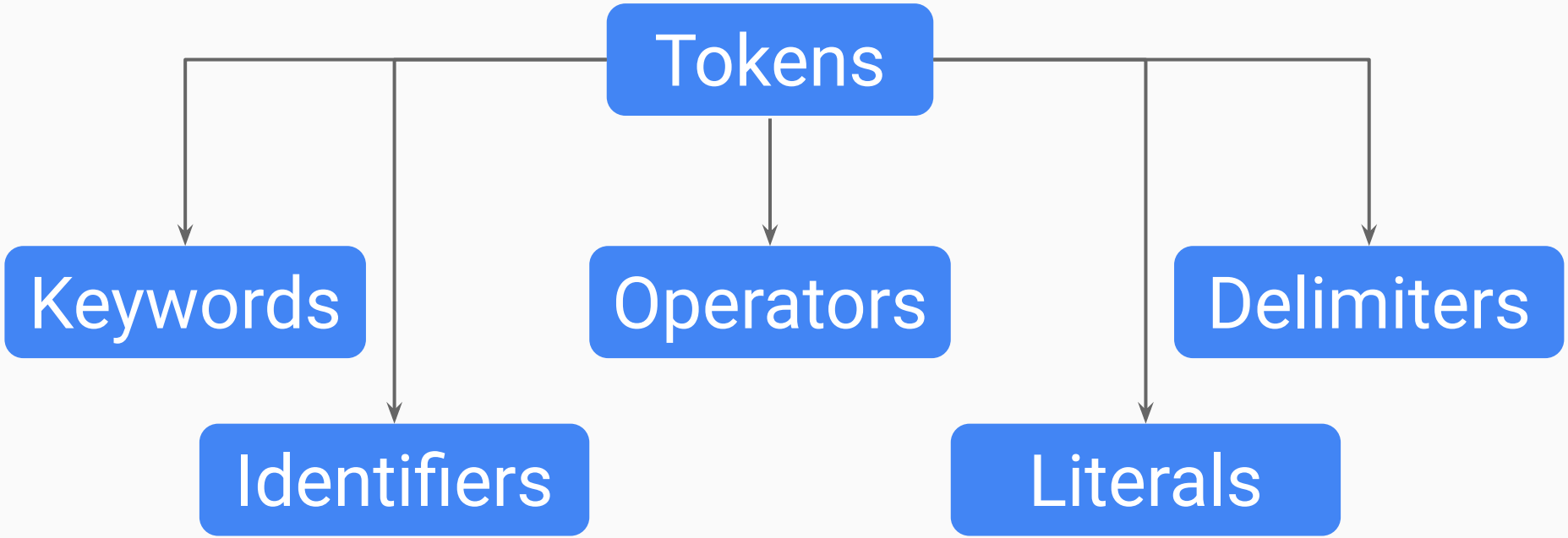
ASCII Table

ASCII is the American Standard Code for Information Interchange. It is a 7-bit code. Many 8-bit codes (e.g., ISO 8859-1) contain ASCII as their lower half. The international counterpart of ASCII is known as ISO 646-IRV.

For convenience, below are more compact tables in decimal.

	30	40	50	60	70	80	90	100	110	120
0:		(	2	<	F	P	Z	d	n	x
1:		)	3	=	G	Q	[	e	o	y
2:		*	4	>	H	R	\	f	p	z
3:	!	+	5	?	I	S	]	g	q	{
4:	"	,	6	@	J	T	^	h	r	|
5:	#	-	7	A	K	U	_	i	s	}
6:	$	.	8	B	L	V	`	j	t	~
7:	%	/	9	C	M	W	a	k	u	DEL
8:	&	0	:	D	N	X	b	l	v	
9:	'	1	;	E	O	Y	c	m	w	

Python Tokens



Python Identifiers

- An identifier in a Python program is name given to various elements in it, such as keyword, variable, function, class, module, package etc.
- An identifier should start with either an alphabet (lower or upper case) or underscore (_).
- More than one alpha-numeric characters or underscore may follow.

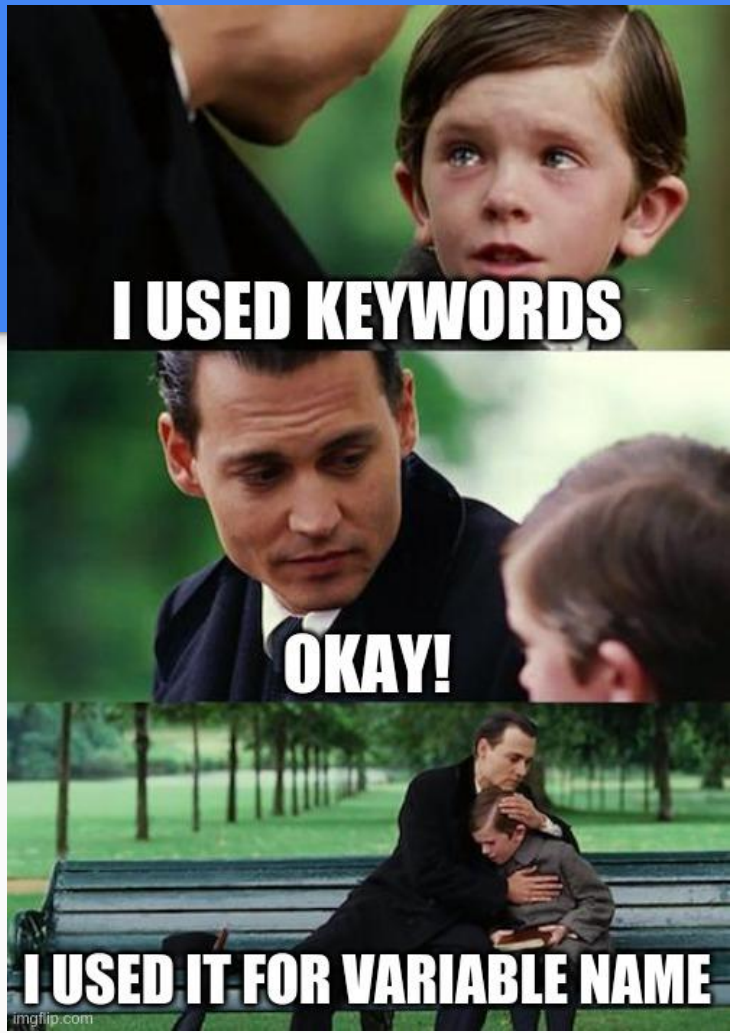
Python Identifiers

- **Keywords are predefined. They are in lowercase. They can not be used for any other purpose.**
- **By convention, name of class starts with uppercase alphabet. Whereas others start with lowercase alphabet.**
- **Single underscore in the beginning of a variable name is used to indicate a private variable.**
- **Two underscores in beginning indicate that the variable is strongly private.**
- **Two leading and trailing underscores are used in language itself for special purpose. For example (e.g. __add__, __init__)**

Python Keywords

Keywords:
You cannot use (are prevented from using) them in a variable name

and	del	from	not	while
as	elif	global	or	with
assert	else	if	pass	yield
break	except	import	print	
class	exec	in	raise	
continue	finally	is	return	
def	for	lambda	try	

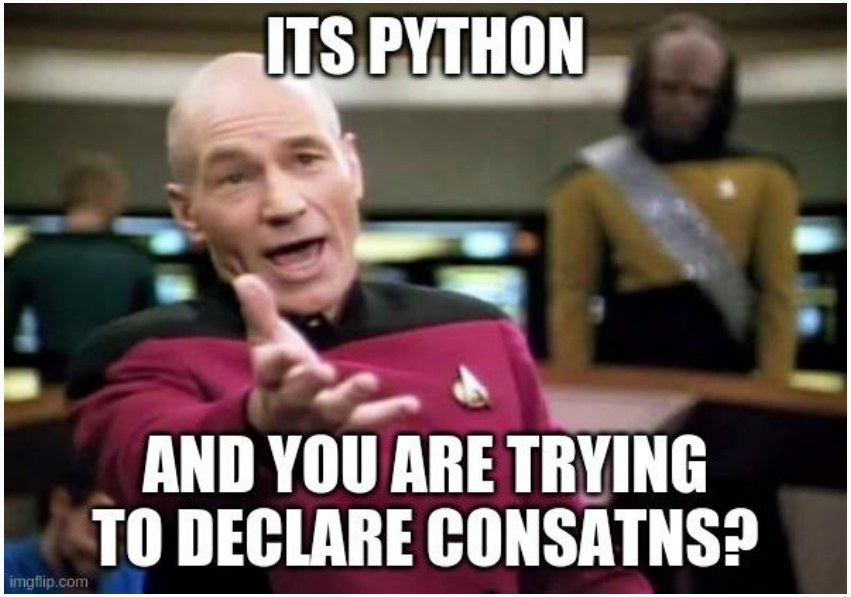


Python Variables

- A variable is a named location used to store data in the memory.
- It is helpful to think of variables as a container that holds data that can be changed later in the program.
- For eg:
  - a = 5
  - b = 1.5
  - And so on

Python Constants

- A constant is a type of variable whose value cannot be changed.
- It is helpful to think of constants as containers that hold information which cannot be changed later.

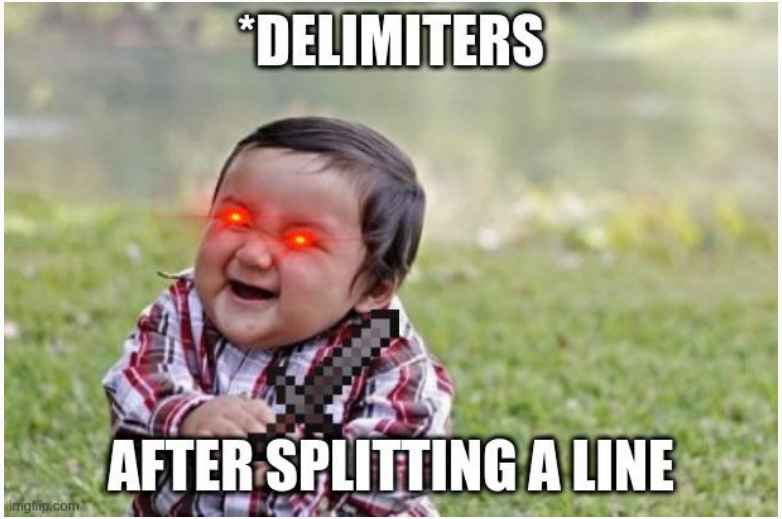


Python Literals

- **Literal is a raw data given in a variable or constant.**
- **In Python, there are various types of literals they are as follows:**
  - **String**
  - **Number**
  - **Boolean**
  - **Literal Collections**
  - **Special Literal (None)**

Python Delimiters

- A delimiter is a sequence of one or more characters for specifying the boundary between separate, independent regions in plain text, mathematical expressions or other data streams.
- Delimiters represent one of various means of specifying boundaries in a data stream.



Python Operators

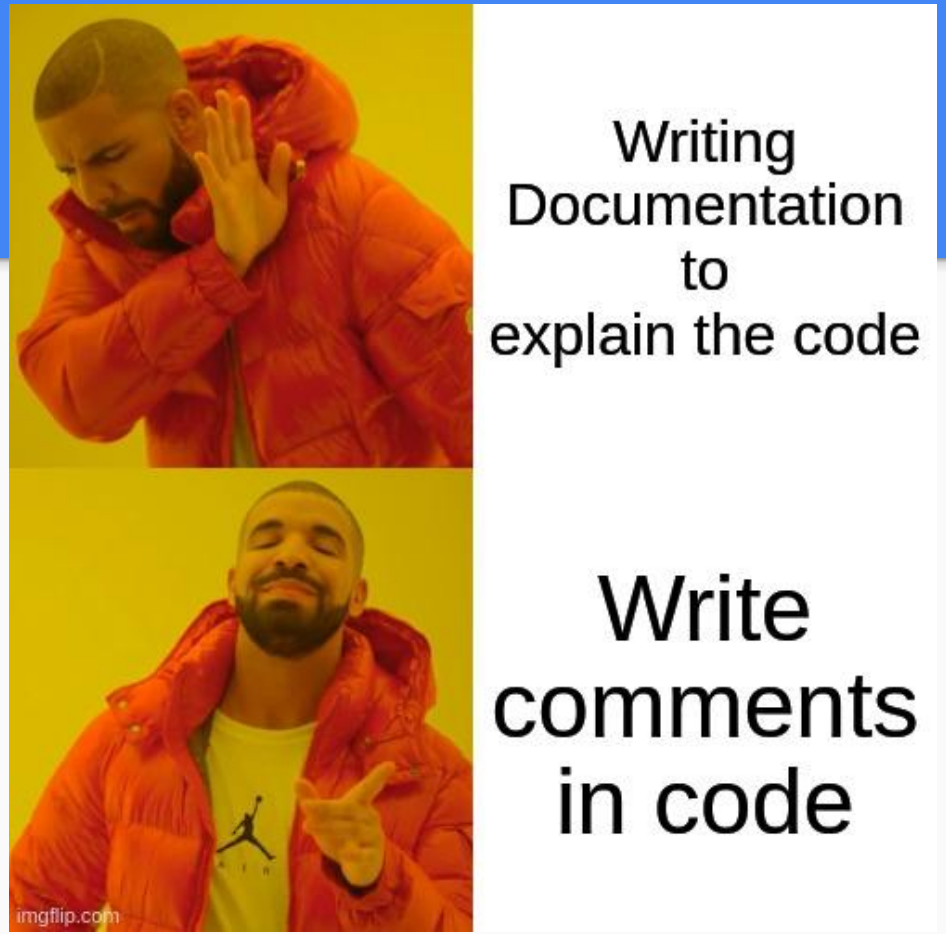
Name	Symbol
Addition	+
Subtraction	-
Multiplication	*
Division	/
Modulus	%
Exponentiation	**
Floor Division	//

Python Operators

Name	Symbol	Function
Bitwise AND	&	Sets all bits to 1, if all bits are 1.
Bitwise OR	|	Sets all bits to 1, if one of the bits is 1.
Bitwise XOR	^	Sets all bits to 1, if only one of the bits is 1.
Bitwise NOT	~	Inverts al bits
Left Shift	<<	Shift left by pushing in zeroes from the right and let the leftmost bits fell off
Right Shift	>>	Shift right by pushing copies of the leftmost bit in from the left, and let the rightmost bit fall off.

Python Comments

- **A comment in Python starts with the hash character, # , and extends to the end of the physical line.**



HURRAY!! YOU JUST STARTED YOUR JOURNEY AS A PYTHONEER 👨‍💻👩‍💻

“Let’s come TOGETHER to LEARN & GROW”

Team DevScript

Thank You !!