python

Control Words

Selection	Iteration		Logical Operators
if	while	break	and
elif	for	continue	or
else	in	(pass)	not

Boolean Values	Functions & Libraries	Error Handling
True	def	try
False	return	except
(None)	import	(finally)

Operators

Equality

==	a == b	a is **equal to** b
!=	a != b	a is **not equal to** b

Comparison

>	a > b	a is **greater than** b
<	a < b	a is **less than** b
>=	a >= b	a is **greater than or equal to** b
<=	a <= b	a is **less than or equal to** b

Arithmetic

+	a + b	**Addition**
-	a - b	**Subtraction**
*	a * b	**Multiplication**
/	a / b	**Division**
%	a % b	Modulus (gets the **remainder** from a division)
**	a ** b	Exponent (gets a to the **power** of b)
//	a // b	Floor (gets the **rounded down** answer from a division)

Data Types

String	"words"
Int	5678
Float	3.14
Boolean	True / False
List	[1, 2, 3]
Tuple	(1, 2, 3)

Action Words

print (yyy)	Display yyy on the screen
x = input (yyy)	Ask question yyy, save answer as String x
x = int (yyy)	Convert yyy into the integer x
x = float (yyy)	Convert yyy into the floating point number x
x = str (yyy)	Convert yyy into the String x
x = len (yyy)	Get the length of yyy as variable x
range (a, b, c)	Make a list, from a (optional) to b - 1, in steps of c (optional)
x = list (yyy)	Convert yyy into the list x

Comments

comments look just like hashtags

Errors

Parsing (typing errors)

SyntaxError (bad punctuation)
- **Invalid syntax** - missing : or () or using = instead of == or using reserved python words for variable names or ++ instead of +=
- **EOL while scanning string literal**: missing speech marks, etc at **E**nd **O**f **L**ine

IndentationError (bad spacing)
- obvious

NameError (bad spelling)
- **Name 'xxx' is not defined** – usually means they misspelt a variable somewhere, or didn't declare it before starting a loop

TypeError (bad data types)
- Usually in a print when putting + between strings & ints, or in maths when trying to add ints and strings

Runtime (data errors)

IndexError (bad lists)
- Referencing array items that don't exist

ValueError (bad input)
- Given when trying to convert strings to numbers and they are invalid.

Logic (design errors)
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