BASIC DATA TYPES

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- Integers
- Floating-Point Numbers
- Complex Numbers
- Strings
- Booleans
- Built-in Functions

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1. **Integers**
2. Floating-Point Numbers
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INTEGERS

- Whole numbers.
- Any length allowed up to memory limit of computer.
- Default is decimal (base 10).

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FLOATING-POINT NUMBERS

- Any number with a decimal point.
- Division result will be a float.
- Can be defined using scientific notation ($4 \times 10^3 = 4000$).

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COMPLEX NUMBERS

- Expressed in the form $ax + bj$.
- Consist of ‘real’ and ‘imaginary’ part.
- j is the square root of -1.

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STRINGS

- A sequence of zero or more characters.
- Can be enclosed using " or ' characters.
- Formats include raw and triple-quoted strings.

STRINGS:
ESCAPE SEQUENCES

ESCAPE CHARACTERS

```
\' - Single Quote
\" - Double Quote
\\ - Backslash
\n - Newline
\r - Carriage Return
\t - Tab
\b - Backspace
\f - Form Feed
\v - Vertical Tab
\onn - Character with octal value xx
\xnn - Character with hex value nn
```

STRINGS:
RAW STRINGS

STRINGS:
TRIPLE QUOTED STRINGS

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BOOLEANS

- Two values - *True* or *False*.
- False is equivalent to 0, True is equivalent to any non-zero number.
- Objects have "truthiness" in Python, and making use of this can make for more readable, 'Pythonic' code.

ASCII

	0	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
0	*NUL*	*BS*	*DLE*	*CAN*	space	(	0	8	@	H	P	X	`	h	p	x
1	*SOH*	*HT*	*DC1*	*EM*	!	)	1	9	A	I	Q	Y	a	i	q	y
2	*STX*	*LF*	*DC2*	*SUB*	"	*	2	:	B	J	R	Z	b	j	r	z
3	*ETX*	*VT*	*DC3*	*ESC*	#	+	3	;	C	K	S	[	c	k	s	{
4	*EOT*	*FF*	*DC4*	*FS*	$	,	4	<	D	L	T	\	d	l	t	|
5	*ENQ*	*CR*	*NAK*	*GS*	%	-	5	=	E	M	U	]	e	m	u	}
6	*ACK*	*SO*	*SYN*	*RS*	&	.	6	>	F	N	V	^	f	n	v	~
7	*BEL*	*SI*	*ETB*	*US*	‘	/	7	?	G	O	W	_	g	o	w	*DEL*

ITALICS = Control Character

BOOLEANS: TYPE

BOOLEANS: CONTEXT

BOOLEANS: "TRUTHINESS"

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BUILT-IN FUNCTIONS

- Composite Data Types
- Math
- Type Conversion
- Iterables and Iterators
- Input/Output
- Variables, References and Scope
- Miscellaneous

MATH

TYPE CONVERSION

ITERABLES AND ITERATORS

ITERABLES AND ITERATORS: ENUMERATE

ITERABLES AND ITERATORS: ZIP

ITERABLES AND ITERATORS: ITER AND NEXT

COMPOSITE DATA TYPES

COMPOSITE DATA TYPES: SET

COMPOSITE DATA TYPES: DICT

INPUT AND OUTPUT

VARIABLES, REFERENCES AND SCOPE

VARIABLES, REFERENCES AND SCOPE: DIR

VARIABLES, REFERENCES AND SCOPE: VARS AND GLOBALS

MISCELLANEOUS

MISCELLANEOUS: EXEC

MISCELLANEOUS: EVAL

MISCELLANEOUS: HASH

BASIC DATA TYPES: CONCLUSION