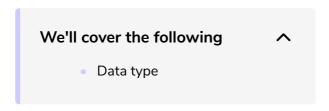
## What is NumPy?

This lesson gives a brief introduction to what is NumPy and explains data types in NumPy.



**NumPy** is a *library for the Python programming language*, adding support for large, multi-dimensional arrays and matrices, along with a large collection of high-level mathematical functions to operate on these arrays.

## Data type #

Туре	Name	Bytes	Description
bool	b	1	Boolean (True or False) stored as a byte
int	1	4-8	Platform (long) integer (normally either int32 or int64)
intp	p	4-8	Integer used for indexing (normally either int32 or int64)

int8	i1	1	Byte (-128 to 127)
int16	i2	2	Integer (-32768 to 32767)
int32	<b>i</b> 4	4	Integer (-2147483648 to 2147483647)
int64	i8	8	Integer (-922337203685 4775808 to 9223372036854 775807)
uint8	u1	1	Unsigned integer (0 to 255)
uint16	u2	2	Unsigned integer (0 to 65535)
uint32	u4	4	Unsigned integer (0 to 4294967295)
uint64	u8	8	Unsigned integer (0 to 1844674407370 9551615)
float	f8	8	Shorthand for float64

float16	f2	2	Half precision
			float: sign bit, 5
			bits exponent,
			10 bits
			mantissa
			Single precision
			float: sign bit, 8
float32	f	4	bits exponent,
			23 bits
			mantissa
			Double
			precision float:
float64	d	8	sign bit, 11 bits
			exponent, 52
			bits mantissa
		10	Shorthand for
complex	c16	16	complex128.
			Complex
			number,
complex64	c8	8	represented by
Сошравло .)		J	two 32-bit
			floats
			Commis
			Complex
complay130	c16	16	number,
complex128	c16	10	represented by two 64-bit
			floats
			110413

NumPy knows that int refers to np.int\_, bool means np.bool\_, that float is np.float\_ and complex is np.complex\_. The other data-types do not have

i yululi equivalellis.

Additionally, the names such as <a href="intc">intc</a>, <a href="long">long</a>, or <a href="double">double</a> used in the C programming language are defined.

Now that the concept of data types is clear, let's move on to the next lesson "Creation in NumPy".