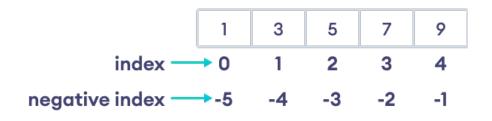


# Spotted Python Week 3 Tutorial

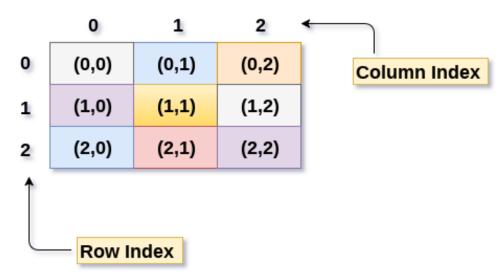
- ★ Lists and Arrays
- **★** Functions
- ★ Logical Statements
- ★ Simple Graphing

#### **Lists and Arrays**

- Lists are a sequence of objects enclosed in [] and separated by commas
- Arrays are an arrangement of numbers or objects formatted into rows and columns
- ★ Indexing:



Notice that indexing starts from 0



Complete Exercise 1



#### **Functions**

- ★ A set of instructions that will be repeated
- ★ Code written for a specific task. For example, calculating the gravitational acceleration
- **★** Complete **Exercise 2**



#### Logical and if-else Statements

- ★ Python can evaluate logical statements
- **★** ==, >=, <=, !=, >, <
- ★ if statement executes a block of code (indented) if the given condition is True
- else statement executes a different block of code, if the if condition is False
- elif statement allows the execution of multiple conditions in sequence
- ★ Complete Exercise 3



### **Simple Graphing**

- Matplotlib is the most used tool for visualisation
- ★ Documentation: <a href="https://matplotlib.org/stable/">https://matplotlib.org/stable/</a>
- ★ List of in-built colours: <a href="https://matplotlib.org/stable/gallery/color/named\_colors.html">https://matplotlib.org/stable/gallery/color/named\_colors.html</a>
- ★ List of in-built colourmaps: <a href="https://matplotlib.org/stable/users/explain/colors/colormaps.h">https://matplotlib.org/stable/users/explain/colors/colormaps.h</a> tml
- ★ Module to import alternative colourmaps: <a href="https://cmasher.readthedocs.io/index.html">https://cmasher.readthedocs.io/index.html</a>
- ★ Tool to create colourmap: <a href="https://gka.github.io/palettes">https://gka.github.io/palettes</a>





## Group Meeting Time