



# Programming in Python<sup>1</sup>

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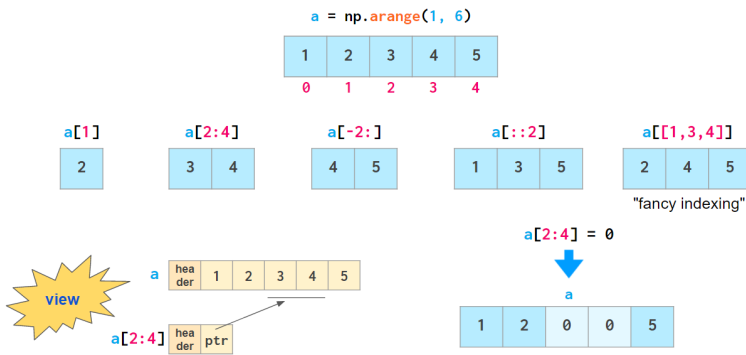
Academic year 2022/23, I semester

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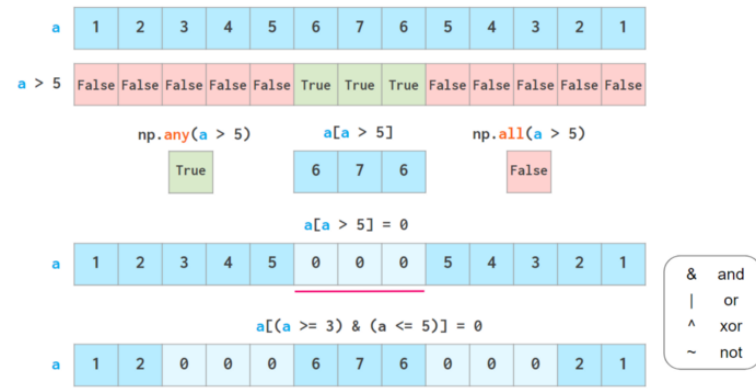
# Lecture XIII: NumPy

## Indexing is powerful



Picture from "NumPy Illustrated: The Visual Guide to NumPy", highly recommended

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## Warning! Assignment works differently from lists



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```
>>> np = np.array([1,2,3,4,5])
>>> lst = [1,2,3,4,5]
>>> np[2:4] = 0
>>> np
array([1, 2, 0, 0, 5])
>>> lst[2:4] = 0 # Error!
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
TypeError: can only assign an iterable
>>> lst[2:4] = [0,0]
>>> lst
[1, 2, 0, 0, 5]
>>> lst[2:4] = [0,0,0]
>>> lst
[1, 2, 0, 0, 0, 5]
>>> np[2:4] = [0,0]
>>> np[2:4] = [0,0,0] # Error!
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
ValueError: could not broadcast input array from shape (3,) into
↳ shape (2,)
```

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## Exercise



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<https://classroom.github.com/a/0Vc-7zYm>

- 1 Manage your virtual environment (see hints in the README.md)
- 2 Code your solution

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