

- -> notebooks from this lecture: <https://github.com/ine-rmotr-curriculum/freecodecamp-intro-to-numpy>
- -> these are similar to vectorised operations
- -> mathematical operations -> one thing times another thing
- -> when you apply boolean operators to numpy arrays
- -> **boolean arrays -> if you want to select the elements in a specific order**
 - -> four boolean values in an array
 - -> this isn't scalable for larger arrays
 - -> these arrays are the result of broadcasting boolean operations
 - -> a ≥ 2 , for example
 - -> a is an array
 - -> the result is an entire array of boolean values
 - -> the boolean operator has been applied to the entire array
 - -> we are filtering
- -> **how we construct the list of booleans**
 - -> including a condition that needs to be matched
 - -> we are looking up data and asking it to give us the data which matches the condition
 - -> we can ask it for all of the elements which aren't \geq
 - -> boolean arrays <- arrays which just contain booleans
 - -> we don't manually type the array of boolean values, we perform an operator (a boolean test / expression) on each of the elements in the array
 - -> boolean operators contain boolean arrays
- -> question

What will the following code print out?

```
a = np.arange(5)
```

```
print(a <= 3)
```

```
[False, False, False, False, True]
```

```
[5]
```

```
[0, 1, 2, 3]
```

```
[True, True, True, True, False] <- This one
```