

190F Foundations of Data Science

Lecture 10

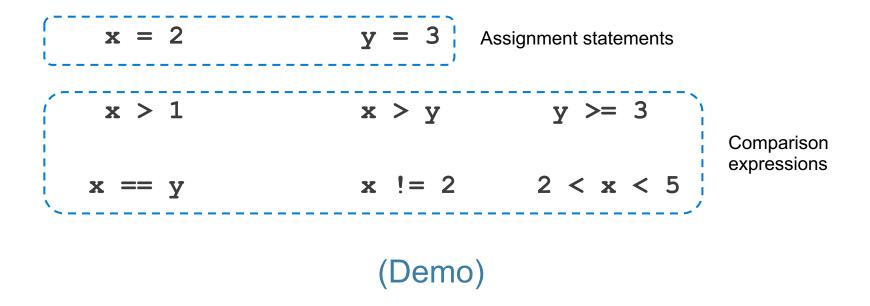
Booleans

Announcements

Comparison

Comparison Operators

The result of a comparison expression is a **bool** value



Combining Comparisons

Boolean operators can be applied to bool values

```
a = True b = False
                           Evaluate to True
not b a or b a and not b
a and b not (a or b) b and b
                           Evaluate to False
                 (Demo)
```

Aggregating Comparisons

Summing an array or list of bool values will count the True values only.

```
1 + 0 + 1 == 2
True + False + True == 2
sum([1 , 0 , 1 )) == 2
sum([True, False, True)) == 2
(Demo)
```

Conditional Statements

These statements *control* the sequence of computations that are performed in a program

- The keyword **if** begins a control statement
- The purpose of if is to define functions that choose different behavior based on their arguments
- if statements use comparisons to choose between different possible behaviors.

(Demo)