



**DATA 8**  
Fall 2016

# Lecture 9, September 14

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## Functions

Slides created by Ani Adhikari and John DeNero

# Announcements

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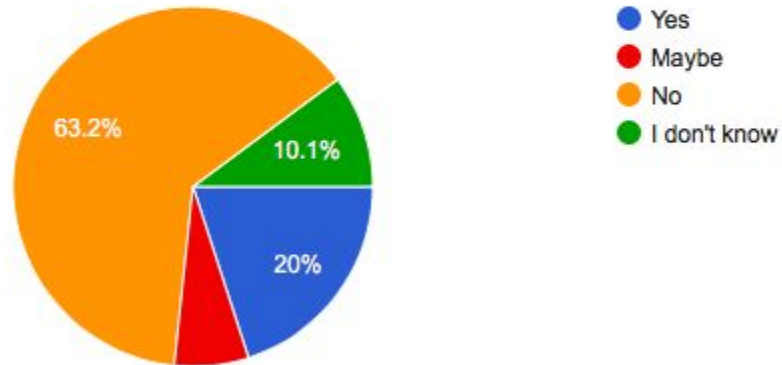
- **No late work.** If you joined the class late, please do current work. We'll prorate based on when you joined.
  - **Technical problems? Questions about hw/lab credit?** Please email your GSI, not me. Addresses are on the Staff Contact page in data8.org.
  - **Python Playground: NEW!** There's a link on Piazza. A place for you to experiment with Python and the class datasets.
  - **Please fill out the Welcome Survey!**
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# Results so far: Requirement?

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Does this course currently fulfill a requirement for one of your intended degree programs?

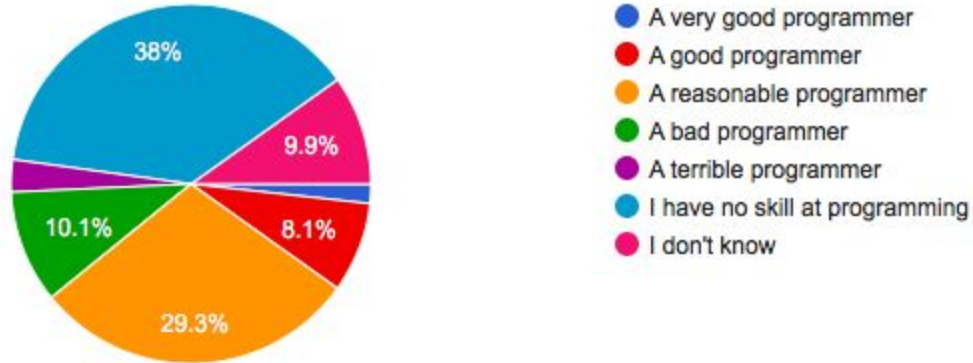
(345 responses)



# Good Programmer?

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How good a programmer do you consider yourself to be? (345 responses)



# Defining Functions

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- You get to write your own functions.
- Useful when you want to do the same computation over and over again, and Python doesn't already have a function for it.

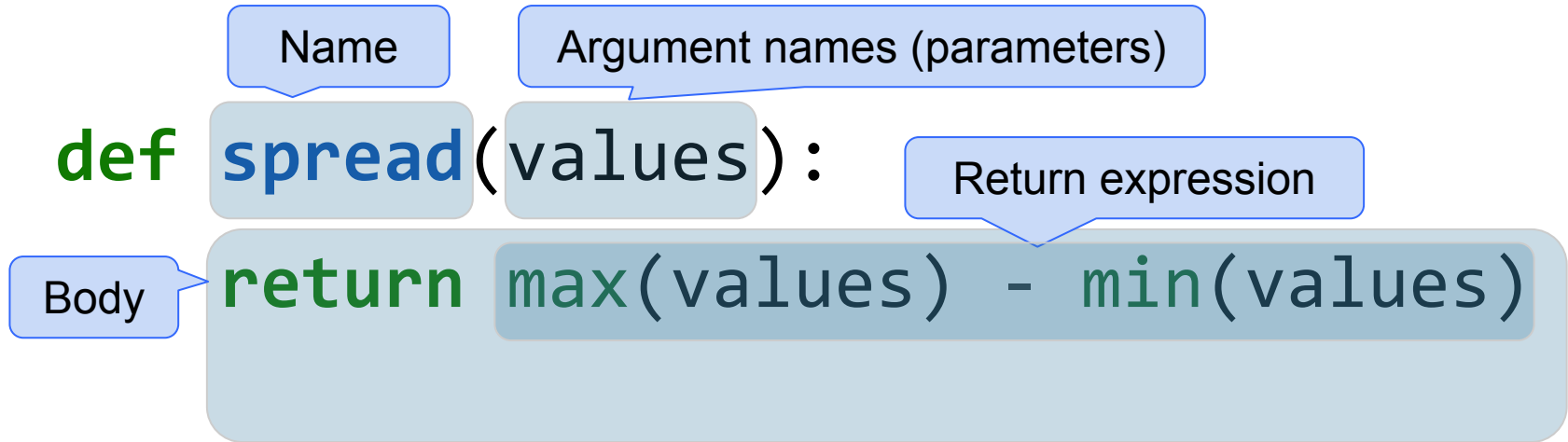
(Demo)

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# Def Statements

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User-defined functions give names to blocks of code



(Demo)

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# Discussion Question

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What does this function do? What kind of input does it take? What output will it give? What's a reasonable name?

```
def f(s):  
    return np.round(s / sum(s) * 100, 2)
```

(Demo)

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# Apply

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The **apply** method creates an array by calling a function on every element in an input column.

- First argument: Function to apply
- Second argument: The input column label

```
table_name.apply(function_name, 'column_label')
```

(Demo)

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