

# ES 2: Critical thinking with Python

aka, Introduction to Computing for Engineers

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# The MBTA data (as JSON)

Download available on the course website

A dict of dicts

# Accessing stuff in a dictionary

Suppose we have a dictionary like

```
menu = {"cheese":12.99,  
        "pepperoni":14.99,  
        "supreme":18.99 }
```

# Dictionaries of dictionaries

```
pizzamenu = {"cheese":12.99,  
            "pepperoni":14.99,  
            "supreme":18.99,  
            }
```

```
menu = {"pizza":pizzamenu,  
       "salad":8.99,  
       "cheesybread":4.99,  
       }
```

# For loops and dictionaries

By default, a for loop gives you every key in the dictionary

You can also ask for just the values, and use this in a loop:

```
pizzamenu = {"cheese":12.99,  
            "pepperoni":14.99,  
            "supreme":18.99,  
            }
```

# Building lists with the data

# What is the purpose of a data visualization?

Think of as many ideas as you can!

# What are some types of data visualization?

What kind of data do they show?

Bar chart

Pie chart

...



## Task for remainder of today:

With your partner, create two plots of the MBTA data:

- One showing at least 100 data points
- One that isn't very honest

At least one partner must mark this as complete by **10am on Thursday.**