Compsci 101
Dictionaries, Jotto
Part 1 of 2

```python
d = {}
d.keys()
d.values()
d[key]
d.get(key, dv)
d.items()
```
• **Python**
  • Whatever you want it to be? Language!!!

• **Parameter**
  • When an argument becomes a variable

• **Power Cycle**
  • Not the last resort. But works

• **P2P**
  • From networking to collaboration
Dictionary Metaphors

• Look up Duke Blue and get #001A57 or (0,26,87)
  • Key is name of color, value is hex or (r,g,b)

• Look up your address, your physical home
  • Key is address, value is the actual home

• Look up www.cs.duke.edu and get 152.3.140.1
  • Key is URL, value is IP address, browsers
## Dictionary Syntax and Semantics

<table>
<thead>
<tr>
<th>Syntax/Function</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>d = {}</code></td>
<td>Initialize empty dictionary d</td>
</tr>
<tr>
<td><code>d.keys()</code></td>
<td>Collection of keys in dictionary</td>
</tr>
<tr>
<td><code>d.values()</code></td>
<td>Collection of values</td>
</tr>
<tr>
<td><code>d[key]</code></td>
<td>Value associated with key (error if key not in d)</td>
</tr>
<tr>
<td><code>d.get(key,dv)</code></td>
<td>Value associated with key (dv if key not in d, dv is optional)</td>
</tr>
<tr>
<td><code>d.items()</code></td>
<td>Collection of (key,value) tuples in d</td>
</tr>
</tbody>
</table>
Dr. danah boyd is a Principal Researcher at Microsoft Research, … and a Visiting Professor at New York University. Her research is focused on addressing social and cultural inequities by understanding the relationship between technology and society.

“If I have learned one thing from my research, it’s this: social media services like Facebook and Twitter are providing teens with new opportunities to participate in public life, and this, more than anything else, is what concerns many anxious adults.”
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Dictionaries, Jotto
Part 2 of 2

```
d = {}
d.keys()
d.values()
d[key]
d.get(key, dv)
d.items()
```

Susan Rodger
March 23, 2021
Dictionary Iteration (unordered!)

- Iterate through keys:
  - for k in d:
    - for k in d.keys():

- Iterate through pairs:
  - for (k,v) in d.items():
    - for k,v in d.items():
Sorting a list – `sorted()`

- Create a new list in alphabetic order

  \[ \text{lst} = [\text{‘plum’}, \text{‘apple’}, \text{‘kiwi’}] \]
  \[ x = \text{sorted(list)} \]

- Using sets with `sorted`