String Parsing
CS106A, Stanford University
Housekeeping

• Assignment #4 due
  – Poll: [https://pollev.com/assignment4](https://pollev.com/assignment4)

• Assignment #5 released today
  – Due: Monday, May 16\textsuperscript{th}

• Midterm is graded
  – Will get back (online) later today
Midterm Statistics

Median = 91 (75.8%)
Mean = 86.7 (72.2%)
Std Dev = 23.1

Midterm Score Histogram
Review!

List
index -> value

Dictionary
key -> value
my_list = ['a', 'b', 'c']

print(my_list[1])

for i in range(len(my_list)):
    value = my_list[i]
    print(i, value)

my_dict = {
    'x': 'a',
    'y': 'b',
    'z': 'c'
}

print(my_dict['y'])

for key in my_dict:
    value = my_dict[key]
    print(key, value)
my_list = ['a', 'b', 'c']

print(my_list[1])

for i in range(len(my_list)):
    value = my_list[i]
    print(i, value)

my_dict = {'x': 'a', 'y': 'b', 'z': 'c'}

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for key in my_dict:
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    'c']

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print(my_dict['y'])

for key in my_dict:
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Reading data from files
Recall, Our Old Friend, Graphics

• What were all those colors again?
  https://www.tcl.tk/man/tcl8.6/TkCmd/colors.html

• And what color is *chartreuse*, really?

  Thank you!
  Thank you very much!
Loading Data From File

• We have file containing color names and RGB values
  – File has "comma separated values"
  – This is called a CSV file (with .csv ending)
  – Can produce these in spreadsheet program (e.g., Excel)
• Want to read in file and store this as a dictionary of lists
  – Key: color name
  – Value: list of R, G, and B values

```
beige,245,245,220
black,0,0,0
blue,0,0,255
brown,165,42,42
chartreuse,127,255,0
gold,255,215,0
gray,128,128,128
green,0,128,0
orange,255,165,0
purple,128,0,128
red,255,0,0
yellow,255,255,0
```
Loading Data From File

colorRBG.csv

beige,245,245,220
black,0,0,0
blue,0,0,255
brown,165,42,42
chartreuse,127,255,0
gold,255,215,0
gray,128,128,128
green,0,128,0
orange,255,165,0
purple,128,0,128
red,255,0,0
yellow,255,255,0

```json
{
    'beige': [245, 245, 220],
    'black': [0, 0, 0],
    'blue': [0, 0, 255],
    'brown': [165, 42, 42],
    'chartreuse': [127, 255, 0],
    'gold': [255, 215, 0],
    'gray': [128, 128, 128],
    'green': [0, 128, 0],
    'orange': [255, 165, 0],
    'purple': [128, 0, 128],
    'red': [255, 0, 0],
    'yellow': [255, 255, 0]
}
```
## Loading Data From File

### colorRBG.csv

<table>
<thead>
<tr>
<th>Key</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>beige</td>
<td>245, 245, 220</td>
</tr>
<tr>
<td>black</td>
<td>0, 0, 0</td>
</tr>
<tr>
<td>blue</td>
<td>0, 0, 255</td>
</tr>
<tr>
<td>brown</td>
<td>165, 42, 42</td>
</tr>
<tr>
<td>chartreuse</td>
<td>127, 255, 0</td>
</tr>
<tr>
<td>gold</td>
<td>255, 215, 0</td>
</tr>
<tr>
<td>gray</td>
<td>128, 128, 128</td>
</tr>
<tr>
<td>green</td>
<td>0, 128, 0</td>
</tr>
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</tr>
<tr>
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<td>128, 0, 128</td>
</tr>
<tr>
<td>red</td>
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</tr>
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<td>255, 255, 0</td>
</tr>
</tbody>
</table>

```python
{
'beige': [245, 245, 220],
'black': [0, 0, 0],
'blue': [0, 0, 255],
'brown': [165, 42, 42],
'chartreuse': [127, 255, 0],
'gold': [255, 215, 0],
'gray': [128, 128, 128],
'green': [0, 128, 0],
'orange': [255, 165, 0],
'purple': [128, 0, 128],
'red': [255, 0, 0],
'yellow': [255, 255, 0]
}
```
def load_colors(filename):
    color_dict = {}
    with open(filename) as file:
        for line in file:
            line = line.strip()
            parts = line.split(',')[0]
            color_name = parts[0]
            rgb_list = []
            for i in range(1, 4):
                rgb_list.append(int(parts[i]))
            color_dict[color_name] = rgb_list
    return color_dict

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color_dict = {}

line = 'beige,245,245,220'

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blue,0,0,255
brown,165,42,42
chartreuse,127,255,0
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    return color_dict
```

color_dict = {}

```python
line  = 'beige,245,245,220'
parts = ['beige','245','245','220']
```

colorRBG.csv

<table>
<thead>
<tr>
<th>Color</th>
<th>RGB</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
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<td>0,0,0</td>
</tr>
<tr>
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color_dict = {}
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def load_colors(filename):
    color_dict = {}
    with open(filename) as file:
        for line in file:
            line = line.strip()
            parts = line.split(',', '')
            color_name = parts[0]
            rgb_list = []
            for i in range(1, 4):
                rgb_list.append(int(parts[i]))
            color_dict[color_name] = rgb_list
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color_dict = {}

line = 'beige,245,245,220'
parts = ['beige','245','245','220']
color_name = 'beige'
rgb_list = [245, 245]
def load_colors(filename):
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    with open(filename) as file:
        for line in file:
            line = line.strip()
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colorRBG.csv

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</tr>
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<td>255,0,0</td>
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<td>yellow</td>
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</table>
I wanna see the colors!

Chartreuse!
Misty rose!
Papaya whip!
Lime!

colors.py
Blend it up!

showblend.py