

Pillow

Taming images in Python

<http://hack.engeto.com/PIL.zip>

What's a pillow



What's Pillow

- Library for processing images in Python
- Uses native libraries for better performance
- Has many utility modules
 - Image for loading and saving
 - ImageDraw for drawing
 - ImageEnhance for simple enhancements (Brightness, Contrast, Sharpness, ...)
 - see the docs for more

<http://pillow.readthedocs.io/>

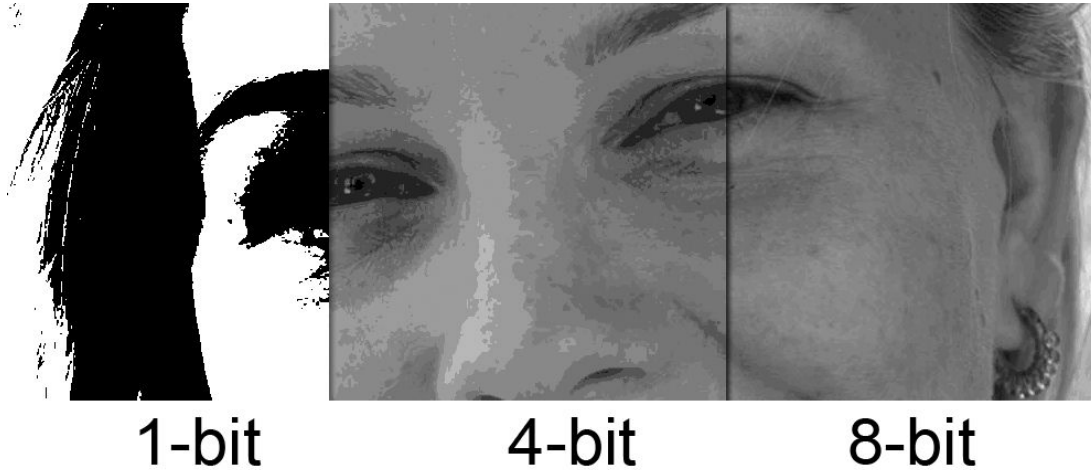
Loading...

```
# Open "kitten.jpg" from the current directory
im = Image.open("kitten.jpg")

# show image in default viewing app
im.show()
```

What constitutes an image

- Dimensions (width, height) in pixels
 - What is a pixel?
- Modes: RGB, RGBA, 1, L, ...



Source: <https://digamation.wordpress.com/category/faq/basics/>

Cropping

```
box = (100, 100, 400, 400)  
region = im.crop(box)
```

- `im.crop` returns a new image based on `im`
- 2 images in the memory: `im` and `region`

Resizing

- `.resize(size, interpolation=NEAREST)`
 - <https://pillow.readthedocs.io/en/4.1.x/handbook/concepts.html#concept-filters>

Resizing

- `.resize(size, interpolation=NEAREST)`
 - <https://pillow.readthedocs.io/en/4.1.x/handbook/concepts.html#concept-filters>
- `.thumbnail(size)`
 - size is the maximum dimensions
 - preserves aspect ratio

Composing images

- `target.paste(source, point_or_box)`
 - Copies the source into target image
- Make kitten explode!

Task - using Pillow to save time

- Folder of vacation photos
- Resize them all to be smaller in a different directory