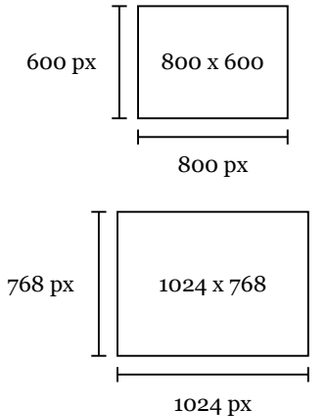
IMAGE PROCESSING WITH PYTHON

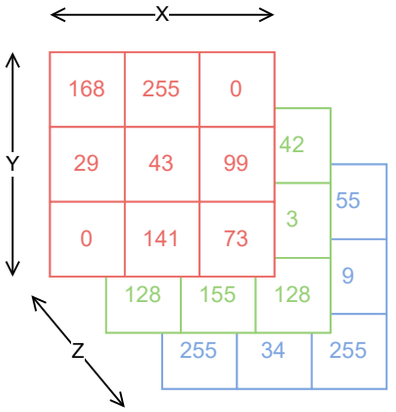
DATA CARPENTRY

Available here:
https://datacarpentry.org/image-processing/

Resolution

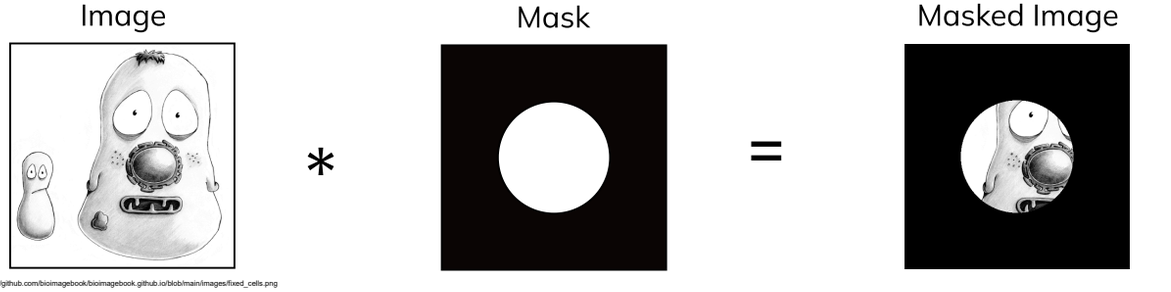


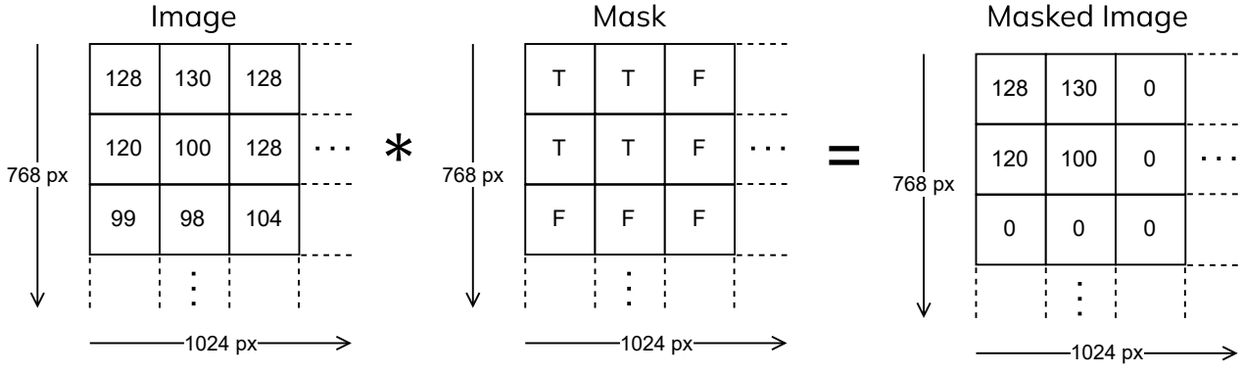
RGB - 3 channels



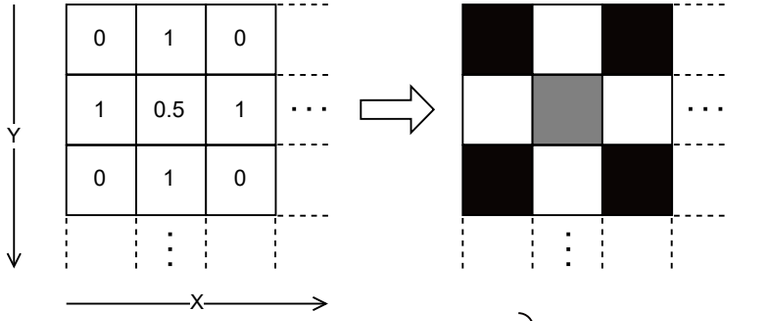

```
img[2,2,0] → 73
img[2,2,1] → 128
img[2,2,2] → 255

img[2,0] → (0,128,255)
```

Masks





Grayscale - Single Channel




```
0 = black
1 = white
0.5 = gray
```
} gray colormap

256 values for intensity

```
range [0-255]
```

```
01010101010101010101010101
```

8 bits 16 bits 24 bits → 1 RGB pixel

Example: 14 MP Camera

$$14,000,000 \cdot 24 = 3.36 \cdot 10^8 bits$$

$$\downarrow$$

$$3.36 \cdot 10^8 \div 8 \div 1024 \div 1024 \approx 40MB$$