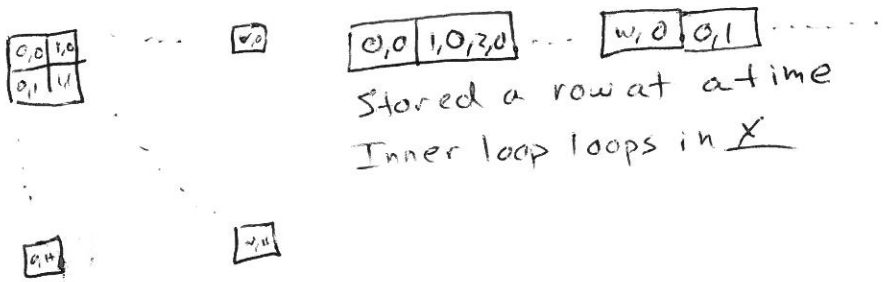
An Image on a hard drive / RAM



RGB to Grayscale

R, G, & B each have 8 bits

8 bits = 0-255

Grayscale is also 0-255

- As a result, we need to find a function g, s.t. $g(r,g,b) \rightarrow [0,255]$
- This is known as a projection, i.e. the range has more dimensions than the domain.

Option 1:

$g(r,g,b) \rightarrow 0$

Option 2:

$g(r,g,b) \rightarrow \frac{r+g+b}{3}$