Image Display

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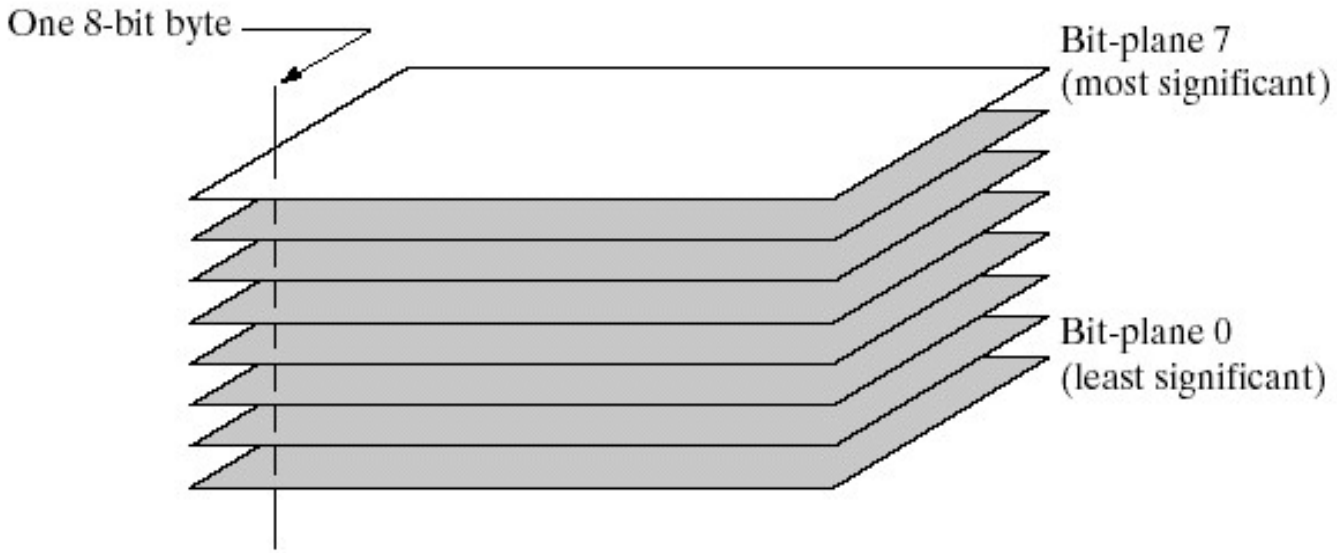
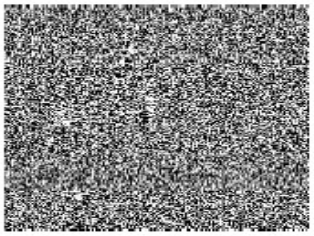
Image Display

- Spatial resolution and quantization
- Computer screen
  - ambient lighting,
  - the monitor type and settings,
  - the graphics card,
  - monitor resolution.

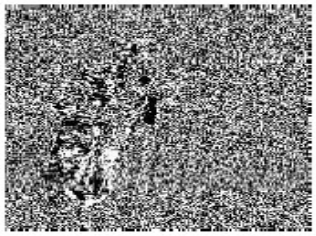
Bit Planes


One 8-bit byte
Bit-plane 7
(most significant)
Bit-plane 0
(least significant)

Bit Planes



c0



c1

c2

c3

c4

c5

c6

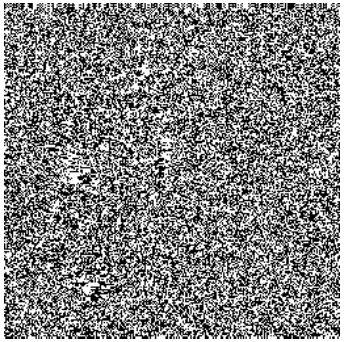
c7

Figure 1.27: The bit planes of an 8-bit greyscale image

Exercise

cameraman.bmp

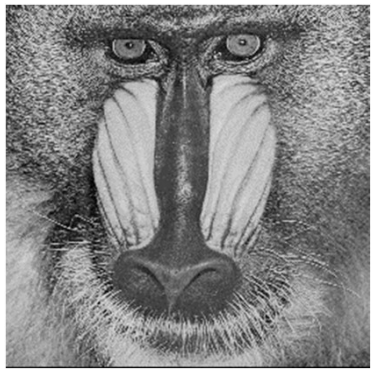
cameraman1.bmp



bo

bo

Exercise



x0.5

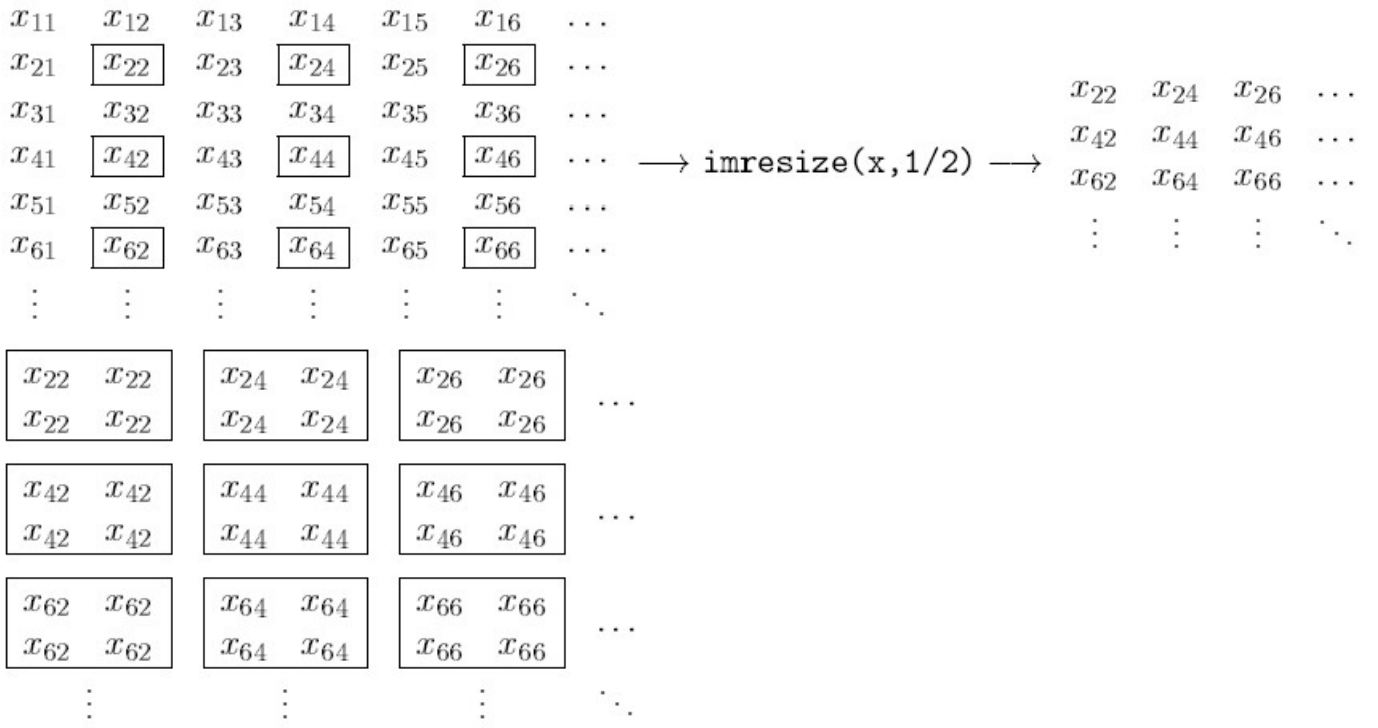
+

x0.5

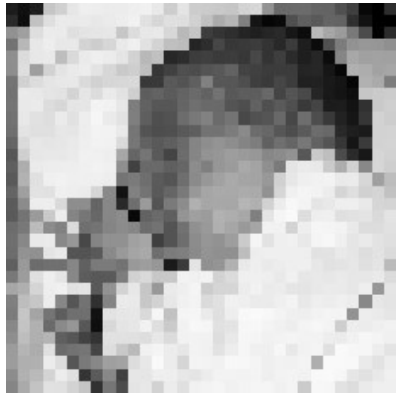
=

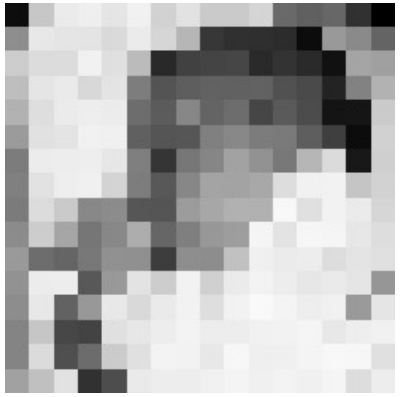
Spatial Resolution

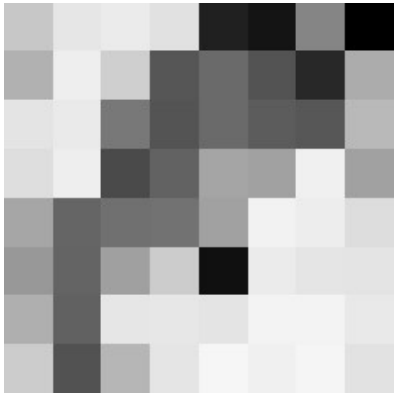
- Spatial resolution is density of pixels over the image: the greater the spatial resolution, the more pixels and used to display the image.



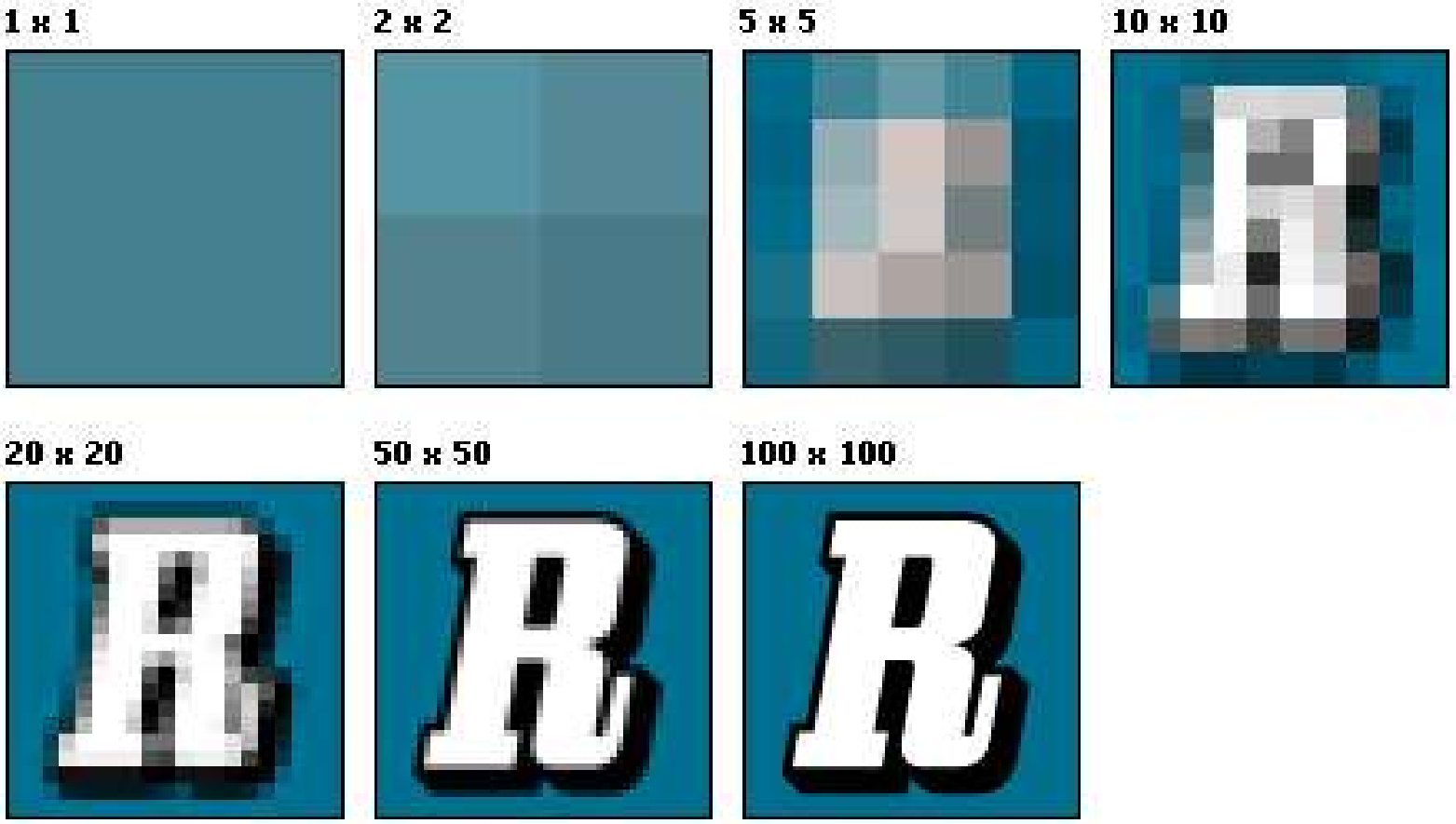
Spatial Resolution







Pixel Resolution



Quantization

- Quantization refers to the number of grayscales used to represent the image.
- There are circumstances in which it may be more practical to represent the image with fewer grayscales.