

Digital Image Processing, 4th ed.

Gonzalez & Woods

www.ImageProcessingPlace.com

Projects

#3

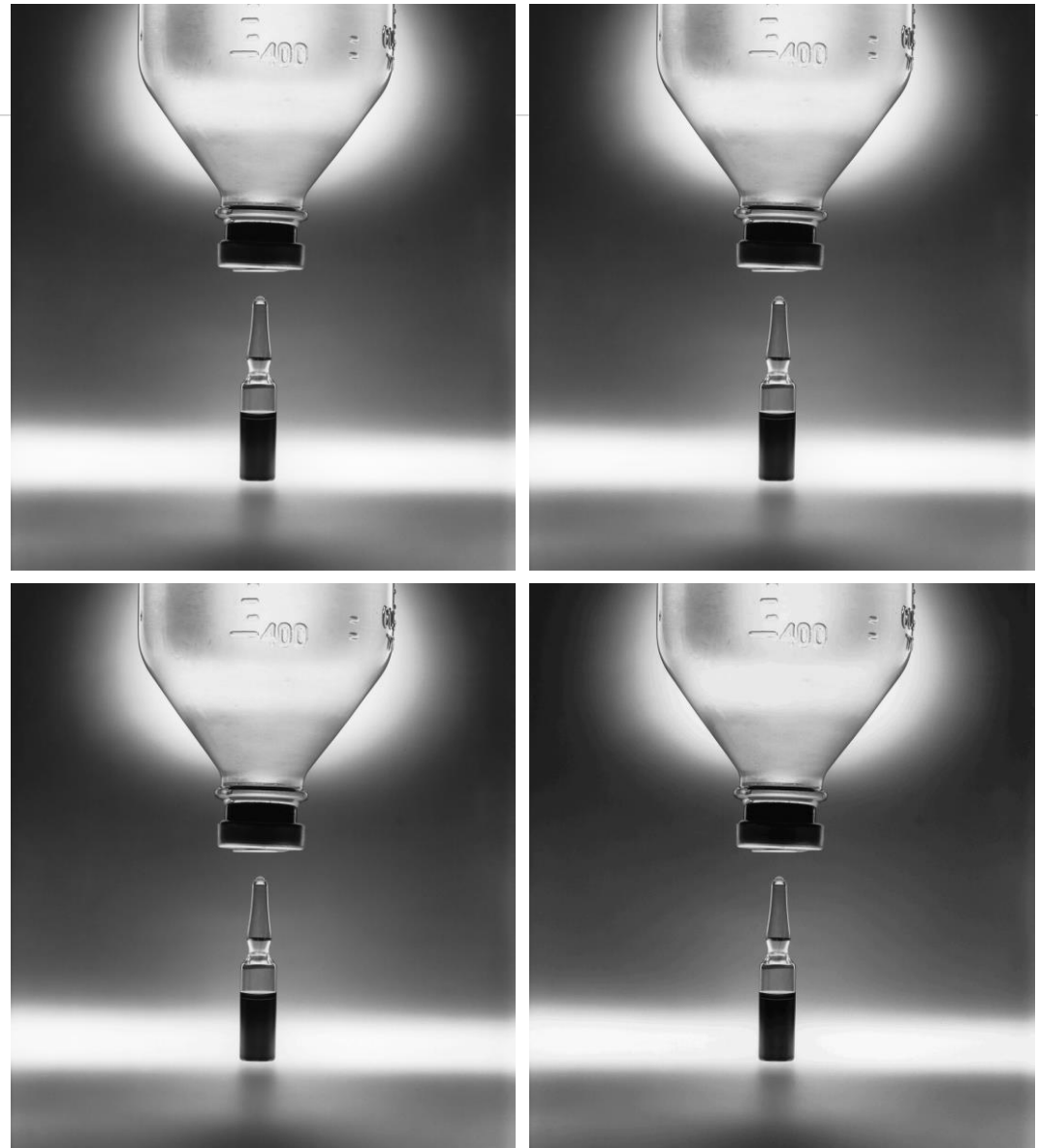
Effects of varying the number of intensity levels in a digital image

Reduce the number of intensities of the image *drip-bottle-256.tif* from 256 to 2 in integer powers of 2, while leaving the image resolution at a fixed 783 dpi (the image are of size 2022x1800 pixels).

a b
c d

FIGURE 2.24

(a) 2022×1800 ,
256-level image.
(b)-(d) Image
displayed in 128,
64, and 32 inten-
sity levels, while
keeping the image
size constant.
(Original image
courtesy of the
National
Cancer Institute.)

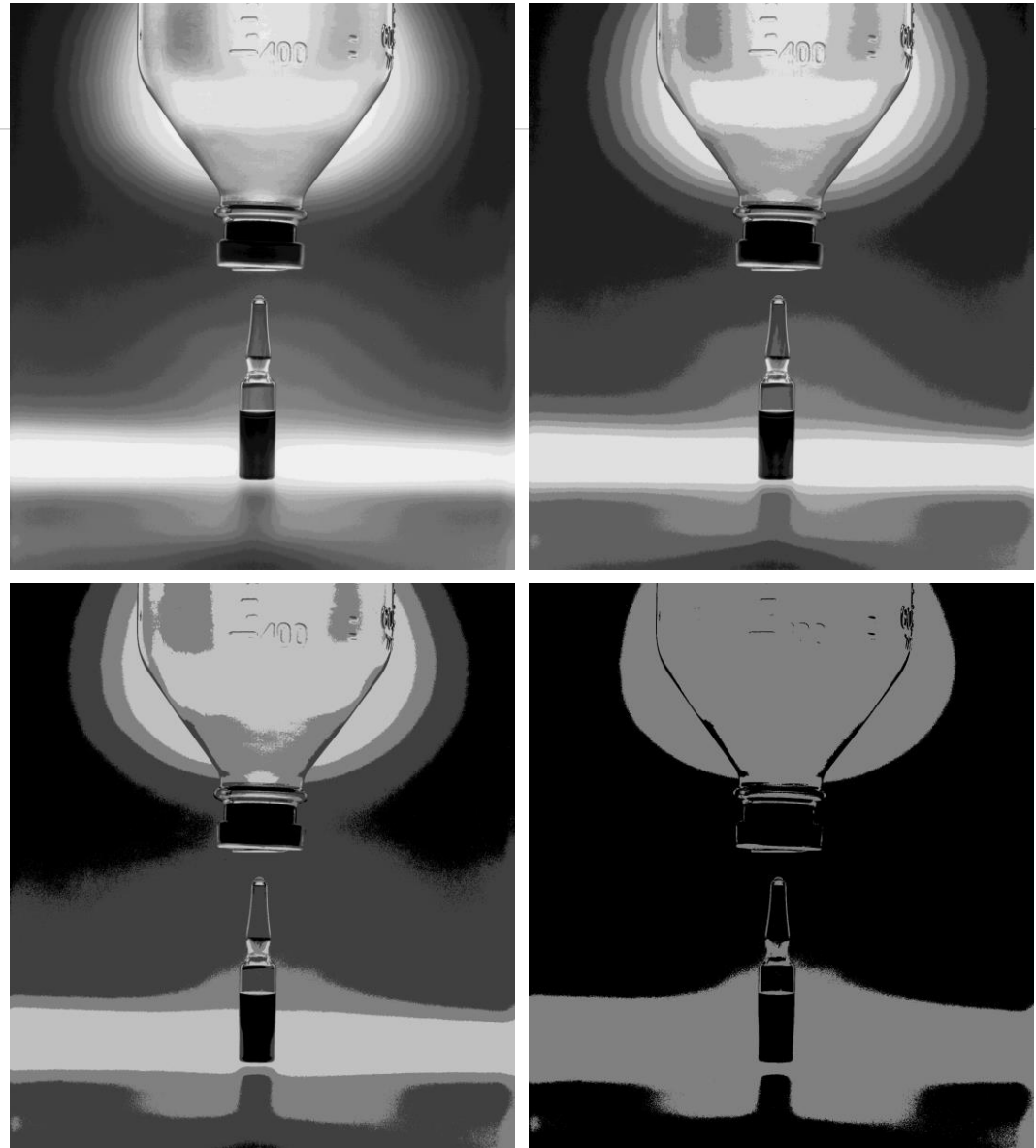


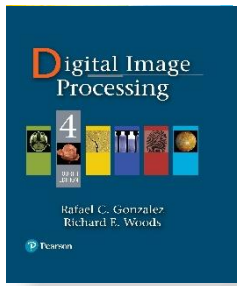
e f
g h

FIGURE 2.24

(Continued)

(e)-(h) Image displayed in 16, 8, 4, and 2 intensity levels. (Original image courtesy of the National Cancer Institute.)





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Hint: use `imshow` with `[]` to adjust the dynamic range of the image

What should be uploaded?

1. m file (commented);
2. Images obtained by reducing the numbers of intensity levels;
3. A comparison between the images obtained and the images shown in Figure 2.24