

## #2

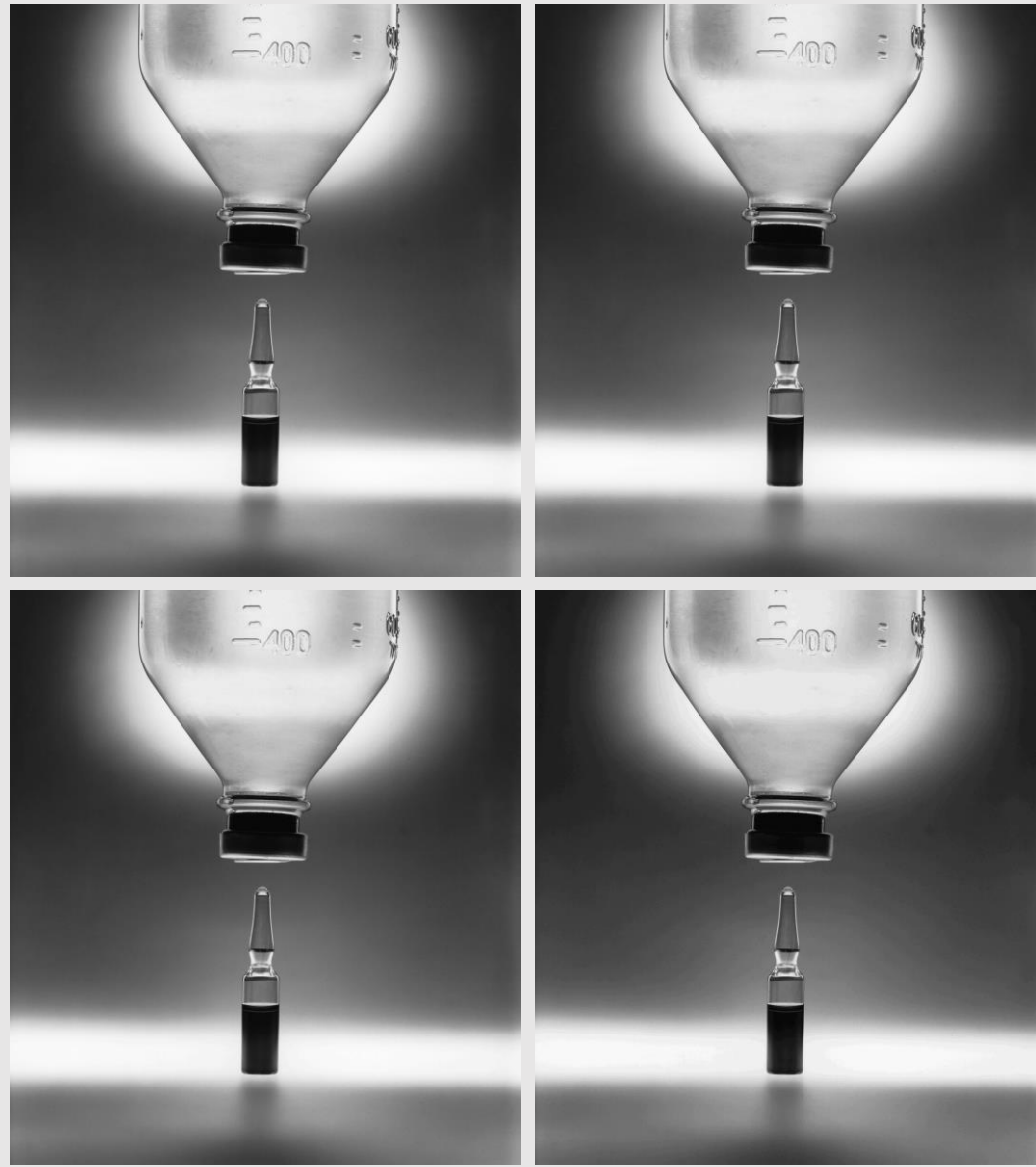
# Effects of varying the number of intensity levels in a digital image

- 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 size image is 2022x1800 pixels).

a b  
c d

## FIGURE 2.24

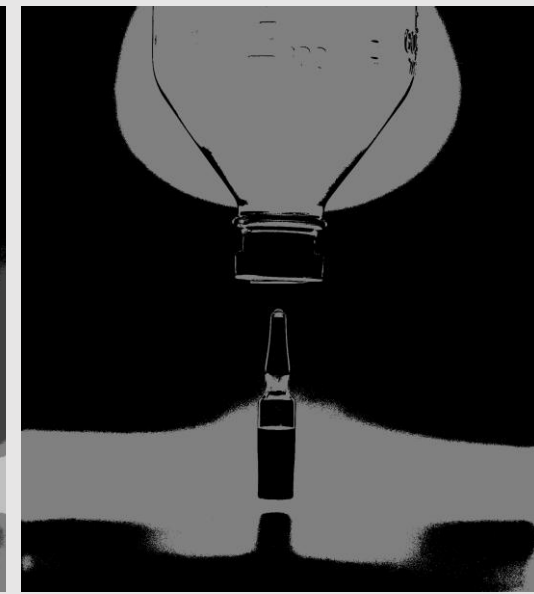
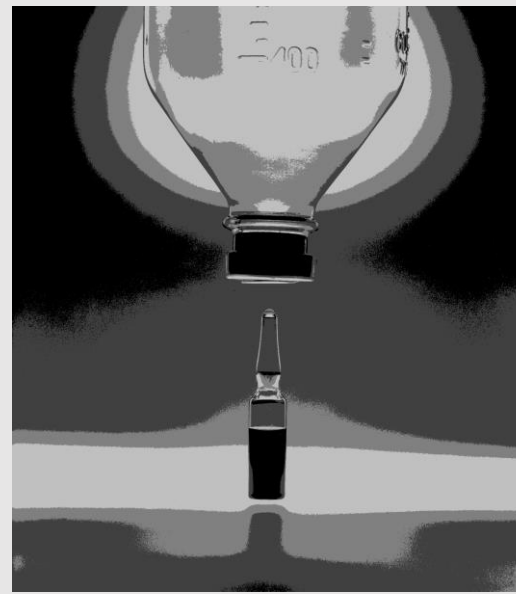
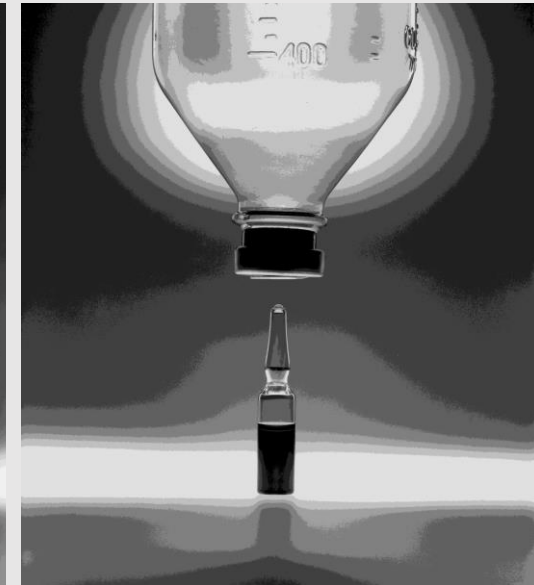
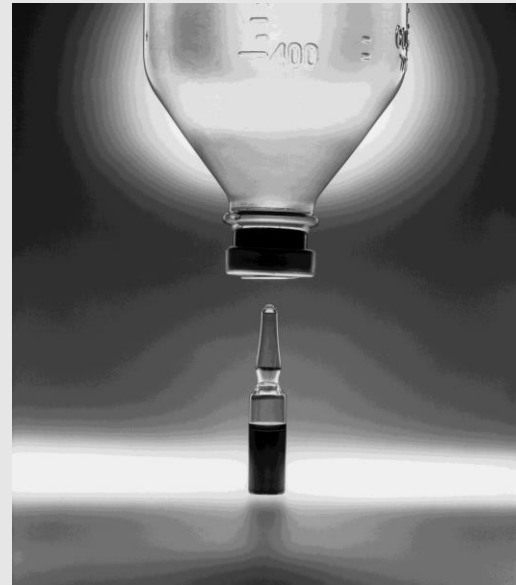
(a)  $2022 \times 1800$ ,  
256-level image.  
(b)-(d) Image  
displayed in 128,  
64, and 32 inten-  
sity levels, while  
keeping the image  
size constant.  
(Original image  
courtesy of the  
National  
Cancer Institute.)



Gonzalez  
& Woods, 2018)

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.)



Gonzalez  
& Woods, 2018)

## #2

**HINT:** To show the obtained images use imshow with `[ ]` to adjust the dynamic range of the image

### What should be uploaded?

- m file (commented);
- Images obtained by reducing the numbers of intensity levels;
- Report (include a comparison between the images obtained and the images shown in Figure 2.24;