Project 02-04

Zooming and shrinking images by bilinear interpolation

(a) Write a computer program capable of zooming and shrinking an image by nearest neighbor and bilinear interpolation. The input to your program is the desired size of the resulting image in the horizontal and vertical direction. You may ignore aliasing effects.

(b) Download figure 2.19 (a) and use your program to shrink this image from 1024×1024 to 256×256 pixels.

(c) Use your program to zoom the image in (b) back to 1024×1024. Explain the reasons for their differences.