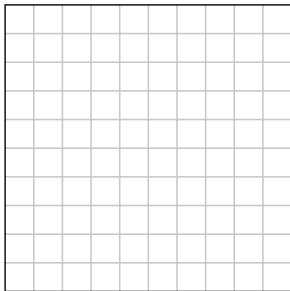


Figure 9.1 The first five generations of a “glider” cellular automaton.



```
[ [0, 0, 0, 0, 0, 0, 0, 0, 0, 0],  
  [0, 0, 0, 0, 0, 0, 0, 0, 0, 0],  
  [0, 0, 0, 0, 0, 0, 0, 0, 0, 0],  
  [0, 0, 0, 0, 0, 0, 0, 0, 0, 0],  
  [0, 0, 0, 0, 0, 0, 0, 0, 0, 0],  
  [0, 0, 0, 0, 0, 0, 0, 0, 0, 0],  
  [0, 0, 0, 0, 0, 0, 0, 0, 0, 0],  
  [0, 0, 0, 0, 0, 0, 0, 0, 0, 0],  
  [0, 0, 0, 0, 0, 0, 0, 0, 0, 0],  
  [0, 0, 0, 0, 0, 0, 0, 0, 0, 0] ]
```

Figure 9.2 Views of the “empty” cellular automaton as a grid and as a list.

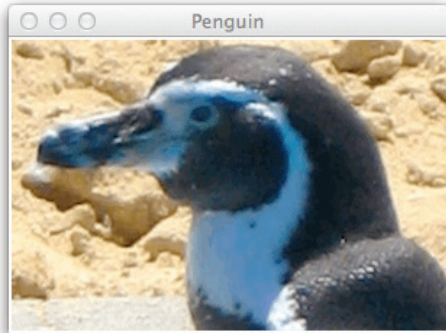


Figure 9.3 The original image of a penguin and the grayscale version.

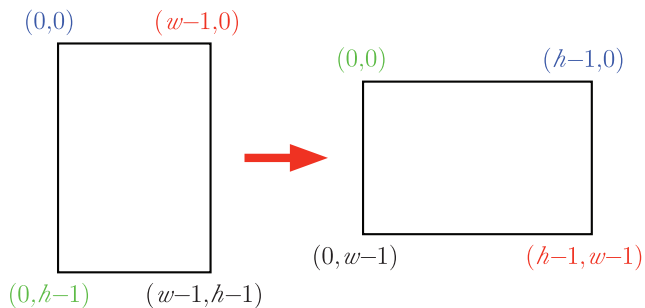


Figure 9.4 Rotating an image 90 degrees clockwise. After rotation, the corners with the same colors should line up. The width and height of the image are represented by w and h , respectively.

Courtesy of CRC Press/Taylor & Francis Group

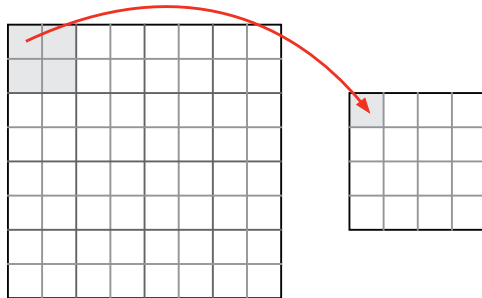


Figure 9.5 Reducing an image by one quarter.

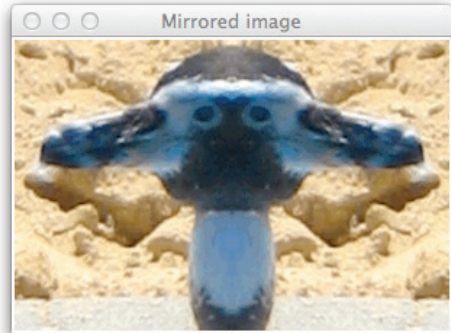
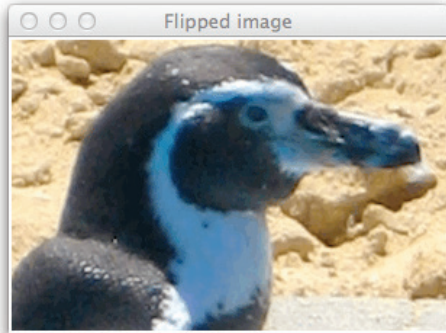


Figure 9.6 Horizontally flipped and mirrored versions of the original penguin image from Figure 9.3.

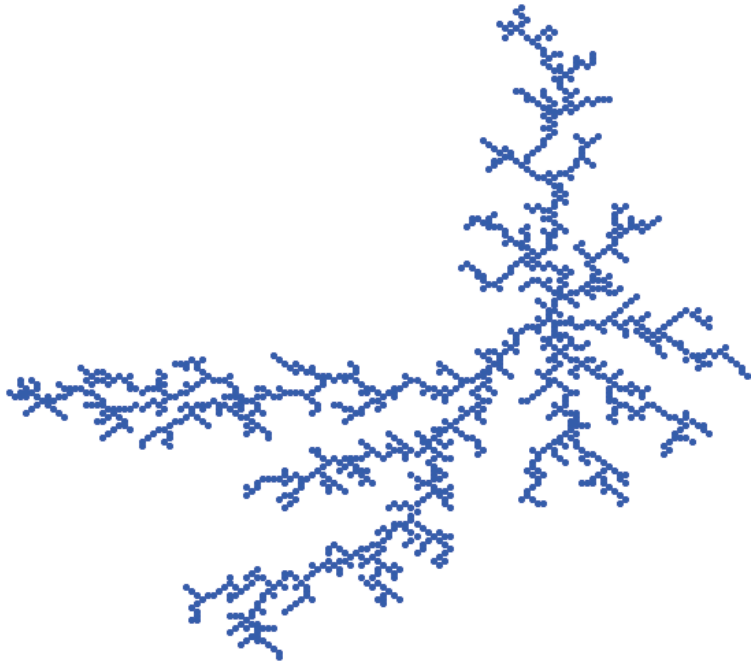


Figure 9.7 A two-dimensional Brownian tree.