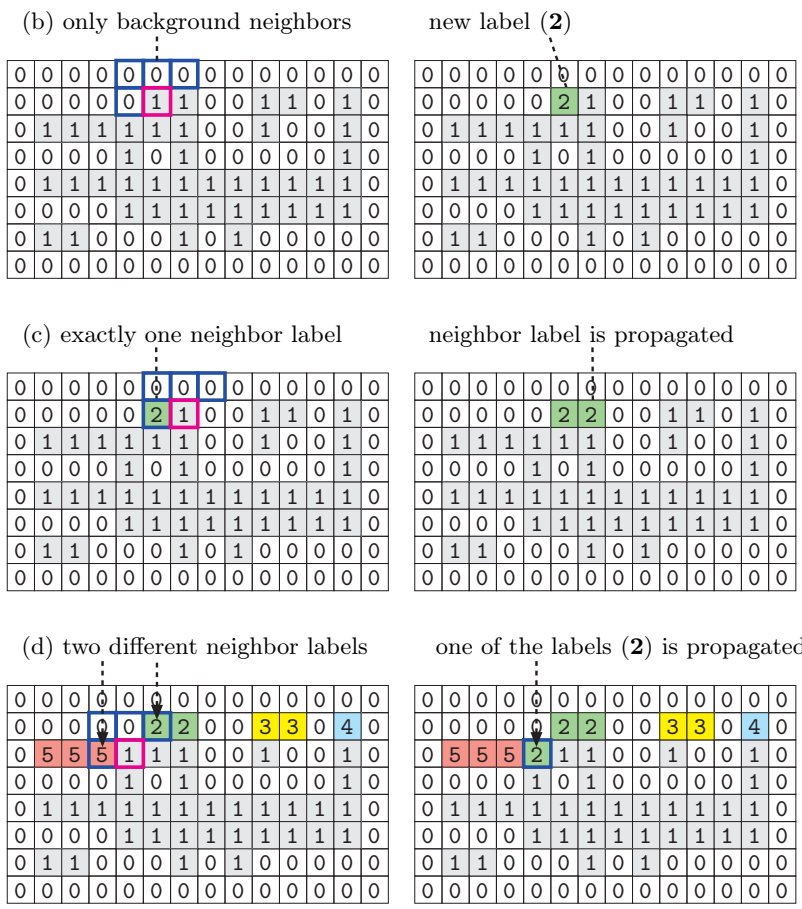
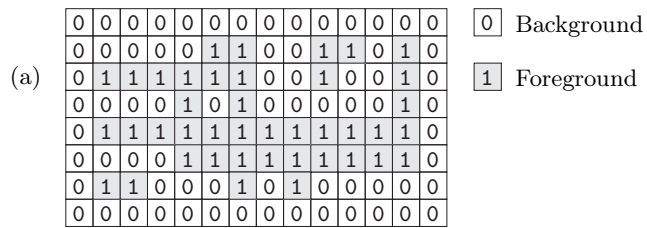


Fig. 11.3

Sequential region labeling—label propagation. Original image (a).

The first foreground pixel [1] is found in (b): all neighbors are background pixels [0], and the pixel is assigned the first label [2]. In the next step (c), there is exactly one neighbor pixel marked with the label 2, so this value is propagated. In (d) there are two neighboring pixels, and they have differing labels (2 and 5); one of these values is propagated, and the collision (2, 5) is registered.



“nodes” of the graph and the registered collisions \mathcal{C} make up its “edges” (Fig. 11.4 (b)).

Once all the distinct labels within a single region have been collected, the labels of all the pixels in the region are updated so they have the same value (for example, using the smallest original label in the region) as in Fig. 11.5.