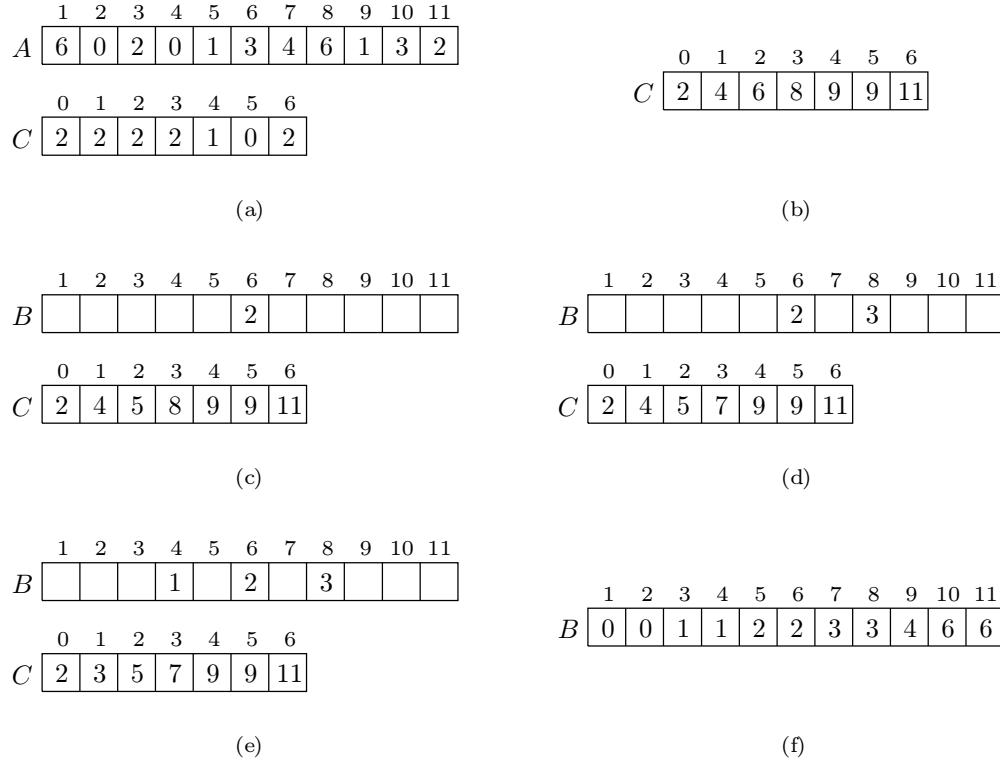


### 8.2-1.

Using Figure 8.2 as a model, illustrate the operation of COUNTING-SORT on the array  $A = \langle 6, 0, 2, 0, 1, 3, 4, 6, 1, 3, 2 \rangle$ .

**Answer.**

Figure 1 shows the operation of COUNTING-SORT on the array  $A = \langle 6, 0, 2, 0, 1, 3, 4, 6, 1, 3, 2 \rangle$ .



**Figure 1.** The operation of COUNTING-SORT on an input array  $A[1..11]$ , where each element of  $A$  is a nonnegative integer no larger than  $k=6$ . (a) The array  $A$  and the auxiliary array  $C$  after line 5. (b) The array  $C$  after line 8. (c)–(e) The output array  $B$  and the auxiliary array  $C$  after one, two, and three iteration of the loop in lines 10–12, respectively. (f) The final sorted output array  $B$ .

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