

(a)

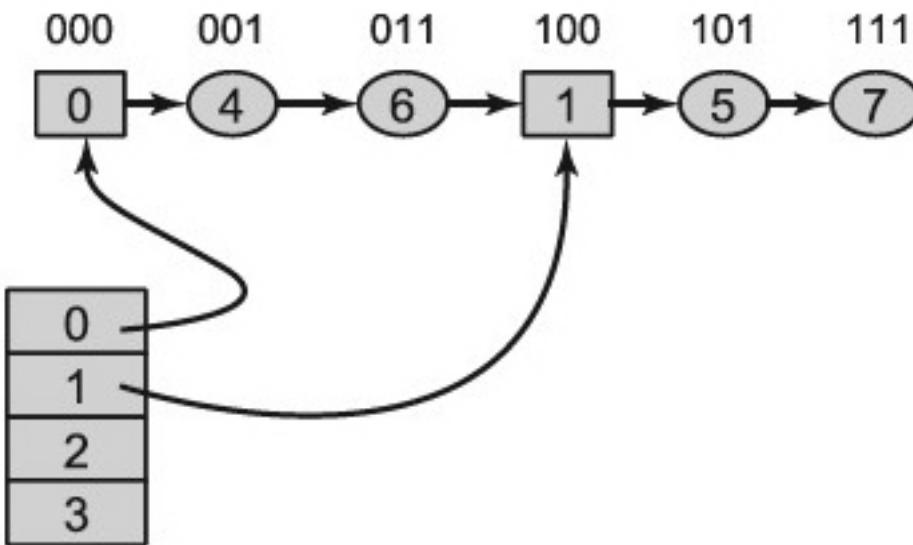


FIGURE 13.12A This figure explains the recursive nature of the split ordering. Part (a) shows a split-ordered list consisting of two buckets. The array of buckets refer into a single linked list. The split-ordered keys (above each node) are the reverse of the bit-wise representation of the items' keys. The active bucket array entries 0 and 1 have special sentinel nodes within the list (square nodes), while other (ordinary) nodes are round. Items 4 (whose reverse bit order is "001") and 6 (whose reverse bit order is "011") are in bucket 0, since the least significant bit (LSB) of the original key is "0." Items 5 and 7 (whose reverse bit orders are "101" and "111," respectively) are in bucket 1, since the LSB of their original key is 1. Part (b) shows how each of the two buckets is split in half once the table capacity grows from two buckets to four. The reverse-bit values of the two added buckets 2 and 3 happen to perfectly split buckets 0 and 1.