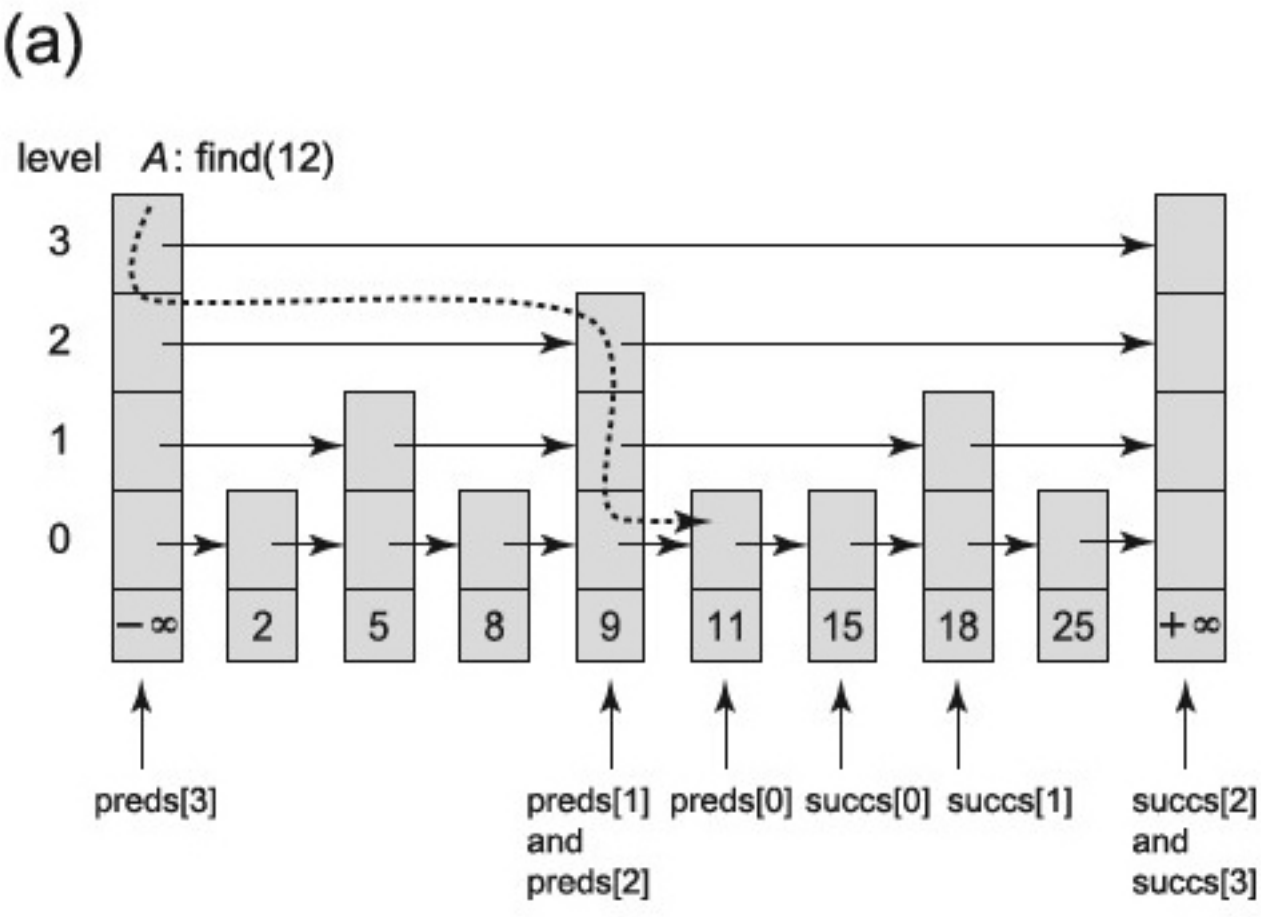

FIGURE 14.2A The SkipList class: add() and find() methods. In part (a), find() traverses at each level, starting at the highest level, for as long as curr is less than or equal to the target key 12. Otherwise, it stores pred and curr in the preds[] and succs[] arrays at each level and descends to the next level. For example, the node with key 9 is preds[2] and preds[1], while tail is succs[2] and the node with key 18 is succs[1]. Here, find() returns *false* since the node with key 12 was not found in the lowest-level list, and so an add*(12)* call in part (b) can proceed. In part (b), a new node is created with a random topLevel = 2. The new node's next references are redirected to the corresponding succs[] nodes, and each predecessor node's next reference is redirected to the new node.