Chapter 21

A Priority Queue:
The Binary Heap
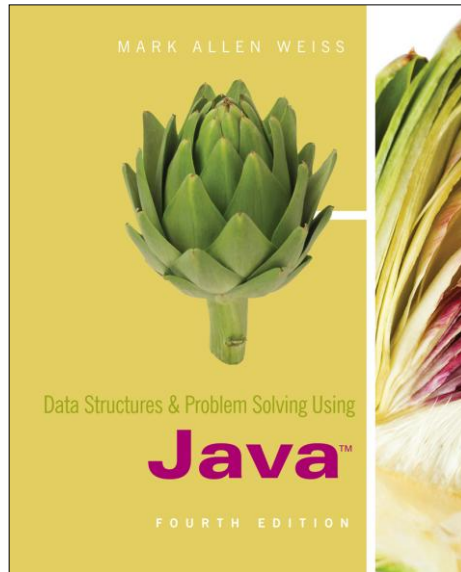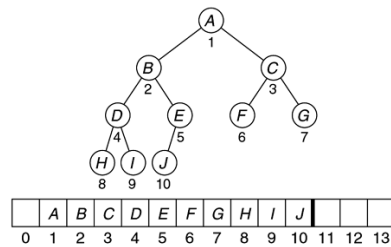
figure 21.1

A complete binary tree and its array representation

figure 21.2

Heap-order property
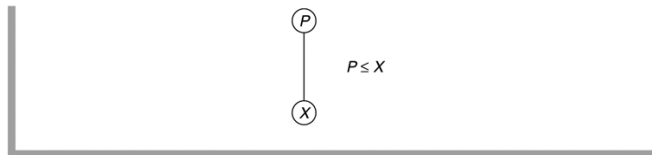
$P \leq X$

figure 21.3

Two complete trees:
(a) a heap; (b) not a
heap
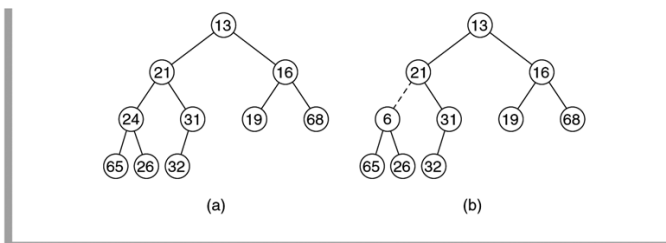
(a)

(b)

2

figure 21.7

Attempt to insert 14, creating the hole and bubbling the hole up
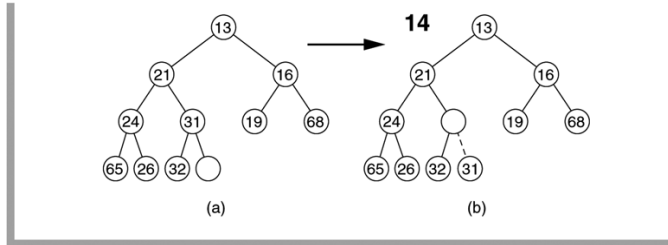
(a)   (b)

(a)   (b)
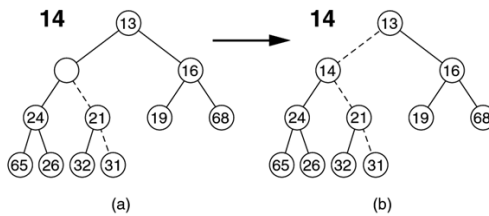
figure 21.8

The remaining two steps required to insert 14 in the original heap shown in Figure 21.7

3

figure 21.10

Creation of the hole at the root
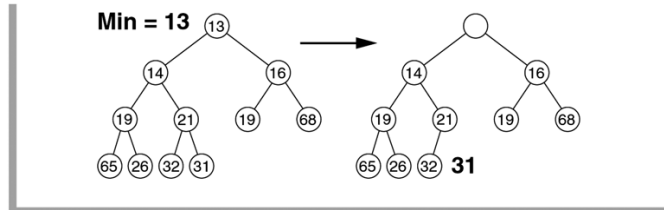
Min = 13

figure 21.11

The next two steps in the `deleteMin` operation
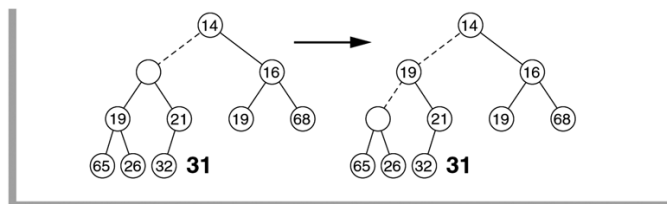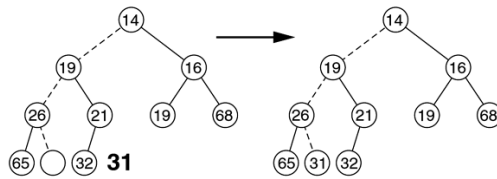
figure 21.12

The last two steps in the `deleteMin` operation

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