

6-2

(a)

1	3	2	6	7	5	4	15	14	12	9	10	11	13	8
---	---	---	---	---	---	---	----	----	----	---	----	----	----	---

(b)

1	3	2	12	6	4	8	15	14	9	7	5	11	13	10
---	---	---	----	---	---	---	----	----	---	---	---	----	----	----

6-4

Percolate up

void up(ElementType X,PriorityQueue H)

```
{
    int i;
    for(i=++H->size;H->Element[i/2]>X;i/=2)
        H->Element[i]=H->Element[i/2];
    H->Element[i]=X;
}
```

Percolate down

ElementType Down(PriorityQueue H)

```
{
    int i,child;
    ElementType MinElement,LastElement;
    MinElement=H->Elements[1];
    LastElement=H->Elements[H->Size--];
    for(i=1;i*2<=H->Size;i=child)
    {
        child=i*2;
        if(child!=H->Size&&H->Elements[child+1]<H->Elements[child])
            child++;
        if(LastElement>H->Elements[child])
            H->Elements[i]=H->Elements[child];
        else
            break;
    }
    H->Elements[i]=LastElement;
    return MinElement;
}
```