ADS LAB-10

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5A [A2]

⑧ Write-Up

```
public void delete (int value) {
    if ((Nodes != null) && (Nodes.findNodeWithKey(value) != null)) {
        decreaseKeyValue(value, findMinimum() - 1);
        extractMin();
    }
}

public void decreaseKeyValue(int old_value, int new_value) {
    BinomialHeapNode temp = Nodes.findNodeWithKey(old_value);
    if (temp == null)
        return;
    temp.key = new_value;
    BinomialHeapNode tempParent = temp.parent;
    while((tempParent != null) && (temp.key < tempParent.key)) {
        int z = temp.key;
        temp.key = tempParent.key;
        tempParent.key = z;
        temp = tempParent;
        tempParent = tempParent.parent;
    }
}

public BinomialHeapNode findNodeWithKey(int value) {
    BinomialHeapNode temp = this, node = null;
    while (temp != null) {
        if (temp.key == value) {
            node = temp;
            break;
        }
        if (temp.child == null) {
            temp = temp.sibling;
        }
        else {
            node = temp.child.findNodeWithKey(value);
            if (node == null)
                temp = temp.sibling;
            else
                break;
        }
    }
    return node;
}
```