1. CCBCCBACDB
2. Solution:



Postorder traversal: ECFDBHJIGA

1. (left+right)/2; left == right; temp[i2++]; temp[i1++]; temp[i1++]; temp[i2++];

1)

25

1. 13

11 16 7 8

4 10 9

2)

25

20 16

13 9 7 8

10 11 4

1. Solution：

Huffman code

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| A | B | C | D | E | F | G | H |
| 15 | 5 | 13 | 26 | 10 | 11 | 16 | 4 |
| 100 | 0000 | 010 | 11 | 001 | 011 | 101 | 0001 |

Total length: 3\* 15 + 4 \* 5 + 3 \* 13 + 2 \* 26 + 3 \* 10 + 3 \* 11 + 3 \* 16 + 4 \* 4 = 283

Expected length: 283/100=2.83



6.

Solution：

H1(20)=5, no conflict

H1(31)=5, H2(31)=4 (5+1\*4)%11=9 so 31 enters the 9rd slot;

H1(43)=8, H1(26)=1, H1(30)=2, H1(13)=6, H1(12)=3,no conflict

When H1(67)=3, H2(67)=2 (3+2\*2)%11= 7 so 67 enters 7(pass by 5)

H1(1)=3, H2(1)=4 (3+2\*4)%11= 0 so 1 enters 0 (pass by 7)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 26 | 30 | 12 |  | 20 | 13 | 67 | 43 | 31 |  |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

7.

Answer:

1）



2）

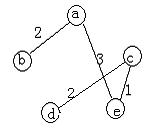


3）



8.

Answer:



9. Solution：

The first question is how many clusters the file requires?

A cluster holds 32\*1K = 32K. Thus, the file requires 640K/32K=20 clusters

The time to read a cluster is seek time to the

cluster+ latency time + (rotation time).

Average seek time is defined to be 50 ms. Latency time is 0.5 \* 11.1 ms (60/5400≈11.1ms), and cluster rotation time is (32/256)\*11.1.

Seek time for the total file read time is

20\* (50 + 0.5 \* 11.1+ (32/256)\*11.1 ) =1138.5ms

10

//广度优先遍历  
void breadthFirstSearch(Tree root){  
    queue<Node \*> nodeQueue;  //使用C++的STL标准模板库  
    nodeQueue.push(root);  
    Node \*node;  
    while(!nodeQueue.empty()){  
        node = nodeQueue.front();  
        nodeQueue.pop();  
        printf(format, node->data);  
        if(node->lchild){  
            nodeQueue.push(node->lchild);  //先将左子树入队  
        }  
        if(node->rchild){  
            nodeQueue.push(node->rchild);  //再将右子树入队  
        }  
    }  
}