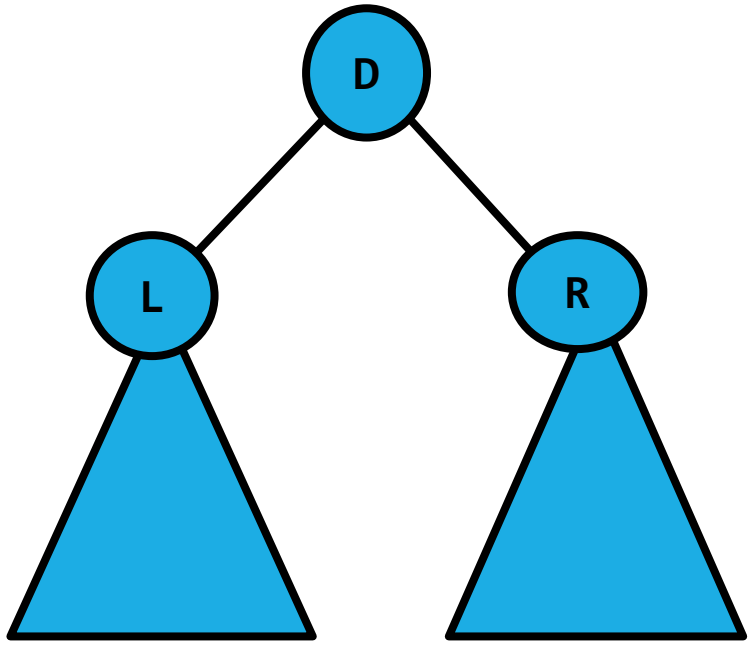
5.3 二叉排序树的查找 BST--Search

```
while  (T 非空)
{ if (T.key==key)
        查到;
     else  if (T.key>key)
                查左子树;
            else  查右子树;
}
```

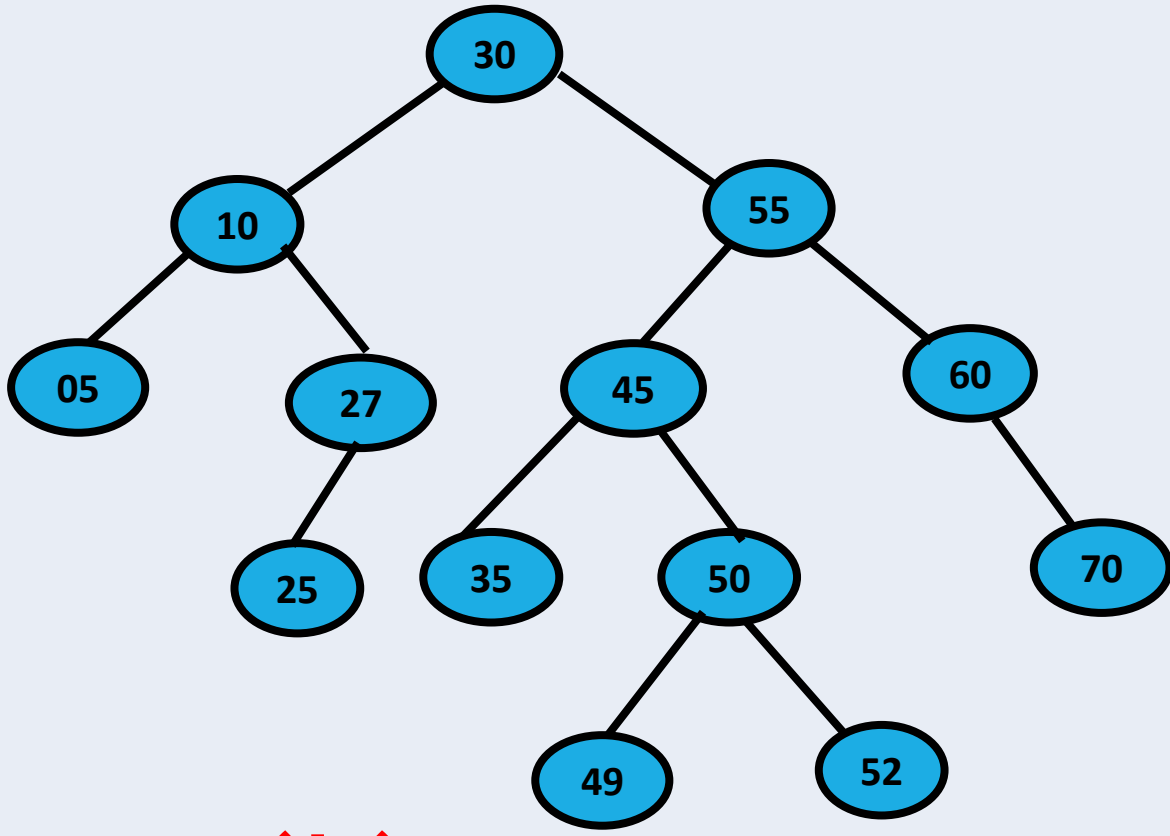


二叉排序树的类型定义

```
1  typedef int DataType;
2  typedef struct BinSearTreeNode
3  {
4          DataType data;
5          struct BinSearTreeNode *leftchild;
6          struct BinSearTreeNode *rightchild;
7  }BSTreeNode;
8  typedef BSTreeNode *BinSearTree;
```

算法5-1

```
1  BSTreeNode BSTSearch(BinSearTree bt, DataType key)
2  {
3          BSTreeNode p, parent;
4          p = bt;
5         parent = p;//记录待插入结点的父结点
6          while (p)
7          {
8                  parent = p;
9                  if (p->data == key) {
10                         printf("exist this key\n");
11                         return NULL;
12                 }
13                 if (p->data > key)
14                         p = p->leftchild;
15                 else
16                         p = p->rightchild;
17         }
18         return parent;
19 }
```



O(h)

思考：时间复杂度