

二叉树

中序遍历：迭代算法

e5 - F2

Although we've come to the end of the road  
Still I can't let you go

邓俊辉

deng@tsinghua.edu.cn

# 序曲

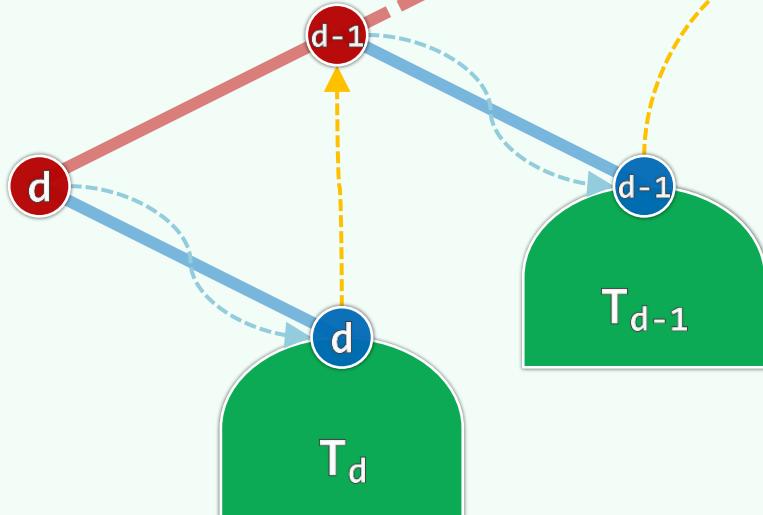
```
template <typename T> static void goAlongVine(
```

```
BinNodePosi(T) x,
```

```
Stack <BinNodePosi(T)> & S
```

```
)
```

end of  
the vine

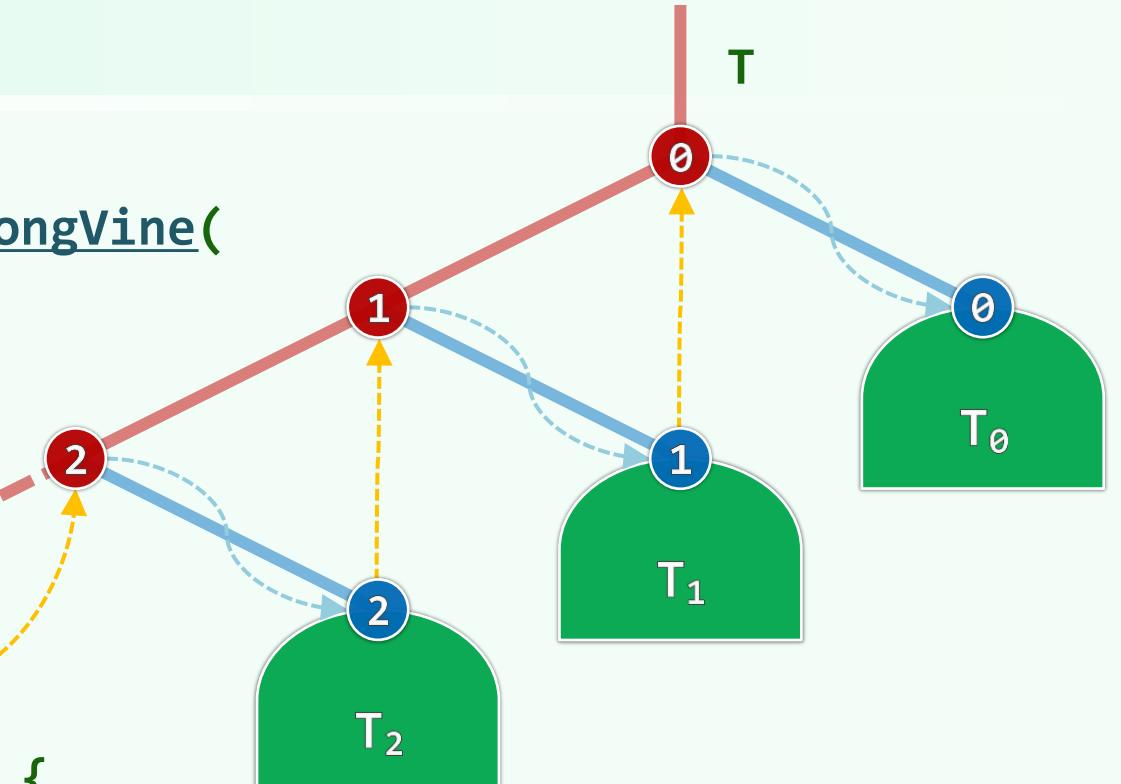


```
{
```

```
while ( x )
```

```
{ S.push( x ); x = x->lC; }
```

```
} //逐层深入，沿藤蔓各节点依次入栈
```



# 全曲

```
❖ template <typename T, typename V>

void travIn_I1( BinNodePosi(T) x, V& visit ) {

Stack < BinNodePosi(T) > S; //辅助栈

while ( true ) { //反复地

    goAlongVine( x, S ); //从当前节点出发，逐批入栈

    if ( S.empty() ) break; //直至所有节点处理完毕

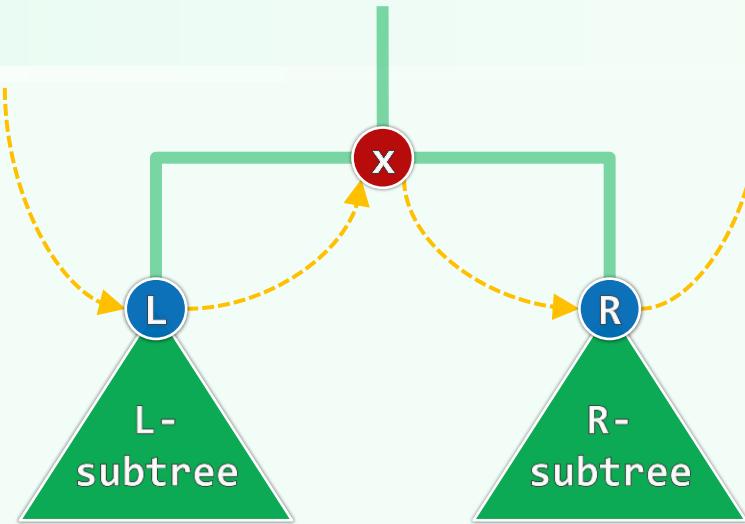
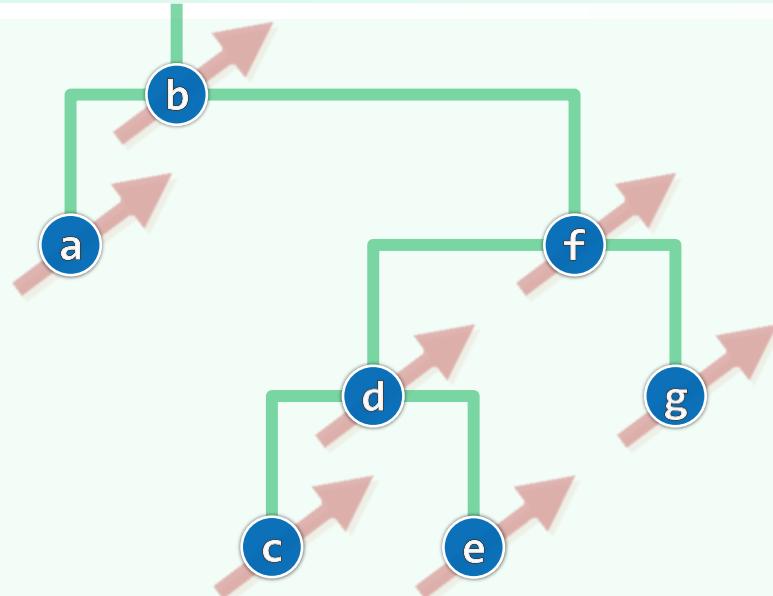
    x = S.pop(); //x的左子树或为空，或已遍历（等效于空），故可以

    visit( x->data ); //立即访问之

    x = x->rc; //再转向其右子树（可能为空，留意处理手法）

}
```

# 实例



a

b

c

d

e

f

g

