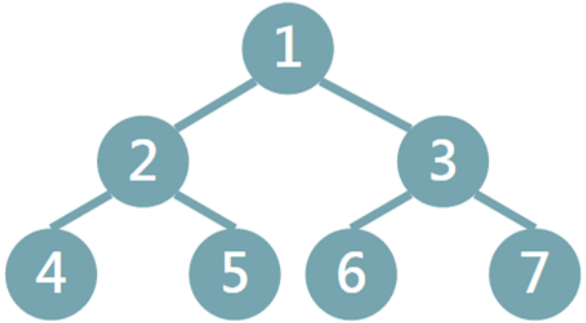
二元樹練習

- 建一棵樹
- 印出中序、前序、後序結果




```
中序：4251637
前序：1245367
後序：4526731
```

VRMLAB
虛擬實境暨多媒體實驗室

二元樹練習

- 建一棵樹

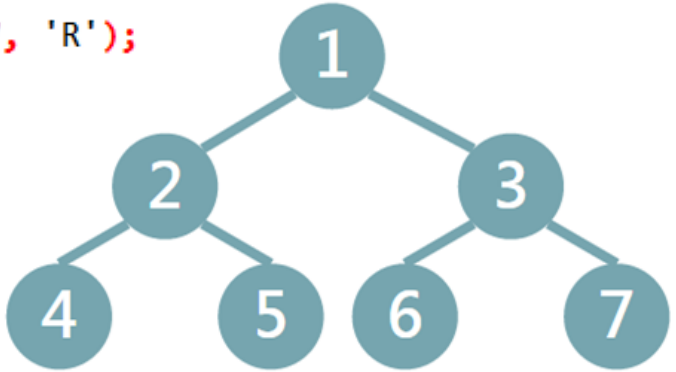
```
void insertTree (treePtr ptr, int value, char lr)
{
    treePtr newNode = (treePtr) malloc (sizeof(treePtr));
    newNode -> data = value;
    newNode -> leftLink = NULL;
    newNode -> rightLink = NULL;

    if (lr == 'L') {
        ptr -> leftLink = newNode;
    } else if (lr == 'R') {
        ptr -> rightLink = newNode;
    }
}
```

二元樹練習

- 建一棵樹

```
insertTree (temp, 2, 'L');  insertTree (temp, 3, 'R');
temp = temp -> leftLink;
insertTree (temp, 4, 'L');  insertTree (temp, 5, 'R');
temp = root -> rightLink;
insertTree (temp, 6, 'L');  insertTree (temp, 7, 'R');
```

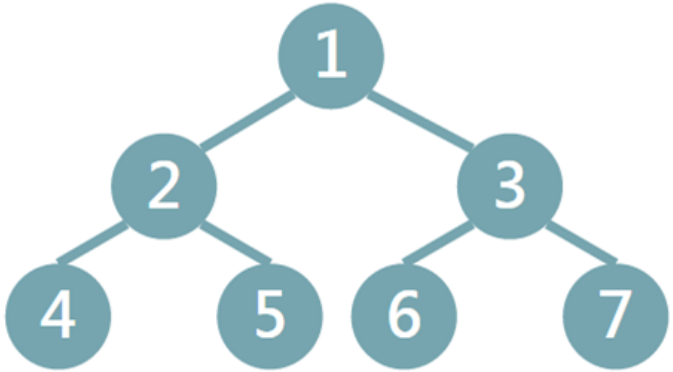


二元樹練習

- 印出中序

```
void inorderTree (treePtr ptr)
{
    if (ptr) {
        inorderTree (ptr -> leftLink);
        printf("%d", ptr -> data);
        inorderTree (ptr -> rightLink);
    }
}
```

中序：4251637

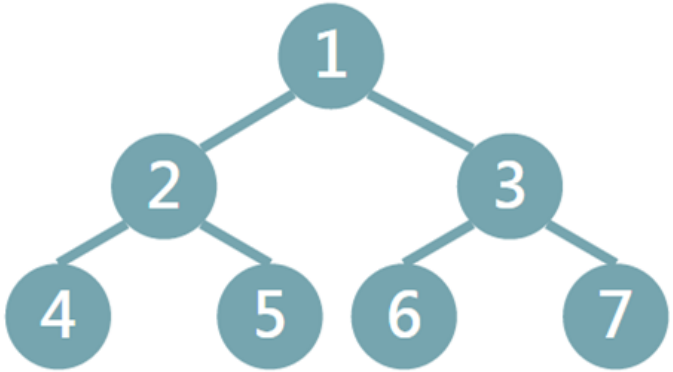


二元樹練習

- 印出前序

```
void preorderTree (treePtr ptr)
{
    if (ptr) {
        printf("%d", ptr -> data);
        preorderTree (ptr -> leftLink);
        preorderTree (ptr -> rightLink);
    }
}
```

前序：1245367



二元樹練習

- 印出後序

```
void postorderTree (treePtr ptr)
{
    if (ptr) {
        postorderTree (ptr -> leftLink);
        postorderTree (ptr -> rightLink);
        printf("%d", ptr -> data);
    }
}
```

後序：4526731