10-B3

图

邻接矩阵：静态操作

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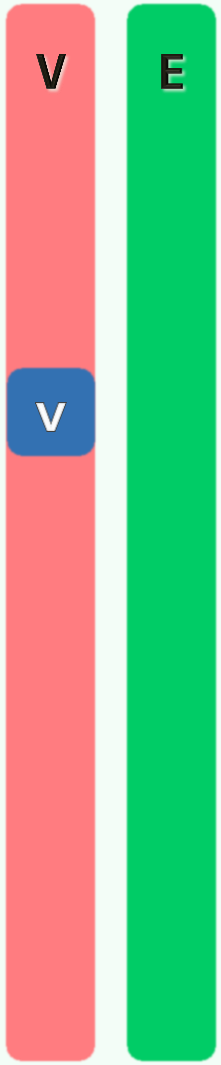
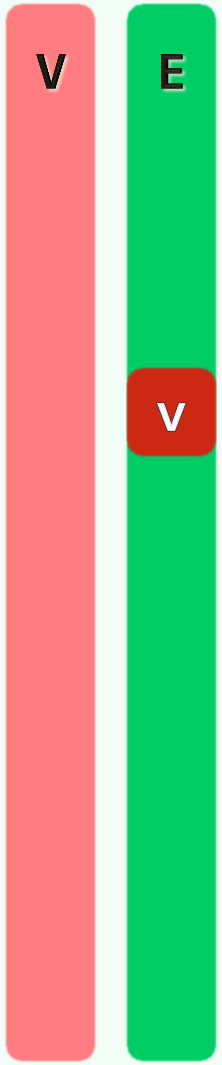
顶点的读写




```
Tv & vertex(Rank v) { return V[v].data; } //数据

int inDegree(Rank v) { return V[v].inDegree; } //入度

int outDegree(Rank v) { return V[v].outDegree; } //出度

VStatus & status(Rank v) { return V[v].status; } //状态

int & dTime(Rank v) { return V[v].dTime; } //时间标签dTime

int & fTime(Rank v) { return V[v].fTime; } //时间标签fTime

Rank & parent(Rank v) { return V[v].parent; } //在遍历树中的父亲

int & priority(Rank v) { return V[v].priority; } //优先级数
```

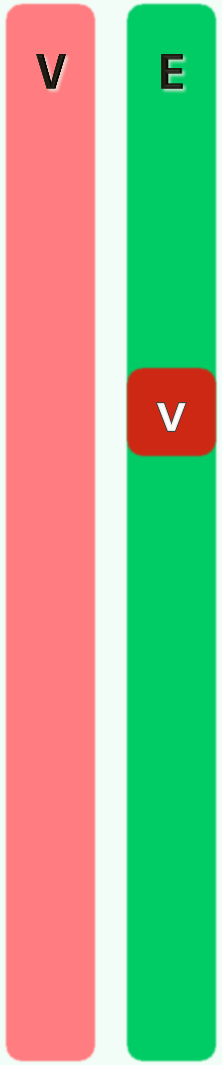
边的读写




```
bool exists( Rank v, Rank u ) { //判断边(v, u)是否存在（短路求值）
   return (v < n) && (u < n) && (E[v][u] != NULL);
} //以下假定exists(v, u) = true
```

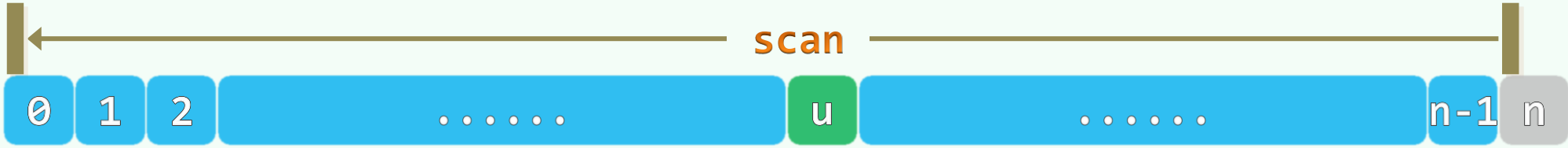

```
Te & edge( Rank v, Rank u ) { return E[v][u]->data; } //数值
EType & type( Rank v, Rank u ) { return E[v][u]->type; } //类型
int & weight( Rank v, Rank u ) { return E[v][u]->weight; } //权重
```

邻点的枚举



对于任意顶点v，如何枚举其所有的邻接顶点（neighbor）？

```
Rank firstNbr( Rank v ) { return nextNbr( v, n ); } //假想哨兵
```




```
Rank nextNbr( Rank v, Rank u ) { //若已枚举至邻居u，则转向下一邻居
   while ( ( -1 != --u ) && ! exists( v, u ) ); //逆向顺序查找
   return u;
} //O(n)——改用邻接表，可提高至O(1 + outDegree(v))
```