

Global Initialization: mark all vertices undiscovered

DFS(v)

 Mark v **discovered**

 for each edge {v,x}

 if (x is undiscovered)

 Mark x **discovered**

 DFS(x)

 Mark v **full-discovered**

- 1、实现深度优先算法（Depth-first search algorithm）。
 - 2、提交报告一份。需包含以下内容：核心源代码、构造的数据、运行结果。
 - 3、编程语言不限。
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```
L ← Empty list that will contain the sorted elements
S ← Set of all nodes with no incoming edge

while S is not empty do
    remove a node n from S
    add n to L
    for each node m with an edge e from n to m do
        remove edge e from the graph
        if m has no other incoming edges then
            insert m into S

if graph has edges then
    return error (graph has at least one cycle)
else
    return L (a topologically sorted order)
```

- 1、实现拓扑排序算法。
- 2、提交报告一份。需包含以下内容：核心源代码、构造的数据、运行结果。
- 3、编程语言不限。