

DFS for undirected graphs

```
dfs(graph, node) {  
  if ("finished") return  
  state[node]  $\leftarrow$  "discovered"  
  time  $\leftarrow$  time + 1  
  processVertexEarly(node)  
  foreach neighbour  $\in$  Neighbourhood(node) {  
    if (state[neighbour]  $\neq$  "discovered") {  
      parent[neighbour]  $\leftarrow$  node  
      processEdge(node, neighbour)  
      dfs(graph, neighbour)  
    } else if (state[neighbour]  $\neq$  "processed") {  
      processEdge(node, neighbour)  
    }  
    if ("finished") return  
  }  
  processVertexLate(currentNode)  
  state[currentNode]  $\leftarrow$  "processed"  
  time  $\leftarrow$  time + 1  
}
```