

## 8.16. Depth First Search Analysis

The general running time for depth first search is as follows. The loops in `dfs` both run in  $O(V)$ , not counting what happens in `dfsvisit`, since they are executed once for each vertex in the graph. In `dfsvisit` the loop is executed once for each edge in the adjacency list of the current vertex. Since `dfsvisit` is only called recursively if the vertex is white, the loop will execute a maximum of once for every edge in the graph or  $O(E)$ . So, the total time for depth first search is  $O(V + E)$ .

You have attempted 1 of 1 activities on this page

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user not logged in

(GeneralDepthFirstSearch.html)

(TopologicalSortin