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My implementation of the algorithm includes constant processing time for each vertice and each edge. The worst case occurs when every edge (and vertice, of course) in the graph must be traversed. Therefore, where  $\mid E \mid$  is the number of edges and  $\mid V \mid$  is the number of vertices, the time complexity of the depth-first traversal algorithm I implemented is  $\Theta(\mid E \mid + \mid V \mid)$  in the worst case.