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CS-163

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Program #5 Write Up

1) In your own words, define the following terms as they relate to graphs; this will help prepare you for the final exam:

   Cycle : It is a circle created by vertices and edges in a graph.

   Path : It is a sequence of edges which joins a sequence of vertices.

   Weighted Graph : A graph that has information in edges.

   Edge List : It is a data structure used to represent a graph as a list of its edges.

   Connected Graph : It is a graph in which it is possible to get from every vertex in the graph to every other vertex through a series of edges.

   Complete Graph : It is a graph in which every pair of distinct vertices is connected by a unique edge.

2) Write the algorithm for the depth first traversal, using recursion. You may write it in English, C++, or pseudo-code

   Input : A graph G and a vertex v of G

   Output : All vertices reachable from v labeled as discovered

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procedure DFS(G, v) is
      label v as discovered
      for all directed edges from v to w that are in
G.adjacentEdges(v) do
            if vertex w is not labeled as discovered then
                  recursively call DFS(G, w)
```