ECE608, Fall 2017, Quiz 10

Last Name: ___________________ First Name: ____________________

As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue.

I certify that I have neither given nor received unauthorized aid on this quiz.

Signed: ___________________

Use only the space provided on this page to answer the following question(s). Do not write your answers on the other side of the page.

_________________________________________________________________

Draw a directed acyclic graph with five vertices and six edges. Apply DFS to the graph in a way that at least one edge is a tree edge, but not all the edges are tree edges.

Show the labels $d[v]$, $\Pi[v]$ and $f[v]$ for every vertex $v$.

For every edge, mark whether it is a tree edge, forward edge, backward edge or cross edge.

Note that when DFS is applied to a directed acyclic graph it cannot find backward edges. All the other types of edges are possible.
Draw a directed acyclic graph with six vertices and six edges.
Apply DFS to the graph in a way that at least one edge is a tree edge, but not all the edges are tree edges.
Show the labels $d[v], \Pi[v]$ and $f[v]$ for every vertex $v$.
For every edge, mark whether it is a tree edge, forward edge, backward edge or cross edge.
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_________________________________________________________________

Draw a directed acyclic graph with seven vertices and six edges.
Apply DFS to the graph in a way that at least one edge is a tree edge, but not all the edges are tree edges.
Show the labels $d[v]$, $\Pi[v]$ and $f[v]$ for every vertex $v$.
For every edge, mark whether it is a tree edge, forward edge, backward edge or cross edge.