24/29

Homework #10

1.

	0	1	2	3
0	0	0	1	1
1	0	0	1	0
2	0	1	0	0
3	0	1	1	0

Adj[0] = {2, 3}
Adj[1] = {2}
Adj[2] = {1}
Adj[3] = {1, 2}

2. $|E| = V - 1$

3. $|E| = \dfrac{V(V-1)}{2}$

H first

4. (H I) D A B E G C F

5. This cannot be topologically sorted. as it must be acyclic, there is a cycle from $A \to D \to F \to B \to A$

6. $n!$

7. How? What technique? DFS (-2)   Purple → Purple is different than purple → black. Search the graph from every vertex on the graph, if you find a vertex that has already been visited coming from another vertex, then there is a cycle.

8. Again, How? BFS. (-2) Search the graph from every vertex on the graph, if at the end of the search, there are any vertices the search has not found, then the graph is not connected.