CS 430 - eighth and last announced quiz

Please work on separate paper, and write only the final solution here. Also, check your work as you are not able to run the code, so it better be right. You have 33 minutes. Good luck!

**Problem 1**

Give a $O(|E| + |V|)$-time algorithm that takes as input a directed acyclic graph $G = (V, E)$ and two vertices $s$ and $t$, and returns the number of paths from $s$ to $t$ in $G$.

Your algorithm only needs to count the paths, not list them.

Hint: dynamic programming ideas may help. You can use any procedure or algorithm discussed in class but you must give complete specifications and state the running time of the procedure in terms of its parameters.