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HW 4
Problem 4
(a)

We look at the following graph $G = (V, E)$, $V = \{v_c, v_1, v_2 ... v_{n-1}\}$, $E = \{(v_c, v_1), (v_c, v_2) ... (v_c, v_{n-1})\}$. The graph has a center v_c, and all other nodes are adjacent to only the center node. The obviously minimum vertex cover has size 1. If at every iteration, the algorithm choose an arbitray edge, and covers the non-center node, it will return an vertex cover of size $n-1$, which is Omega(n) times larger than the minumum vertex cover.

(b) (c) I dont know