

Due Friday, November 30, 2012.

See Appendix B of CLRS for the definitions of *cycle* and *simple cycle*.

Problem 1. Assume you have a directed graph $G = (V, E)$ represented by an **adjacency list**. Assume that your graph consists only of simple cycles (so that every vertex is in one and only one simple cycle). Give a $\Theta(|V|)$ time algorithm to print the cycles. Briefly justify the time of your algorithm.

Problem 2. Assume you have a directed graph $G = (V, E)$ represented by an **adjacency matrix**. Assume that your graph consists only of simple cycles (so that every vertex is in one and only one simple cycle). Give a $\Theta(|V|^2)$ time algorithm to print the cycles. Briefly justify the time of your algorithm.