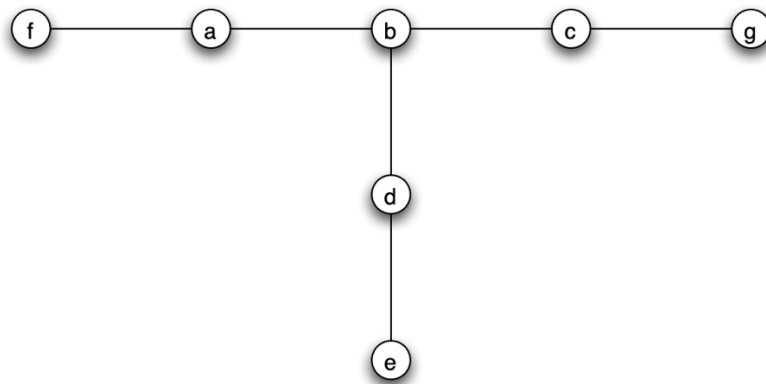


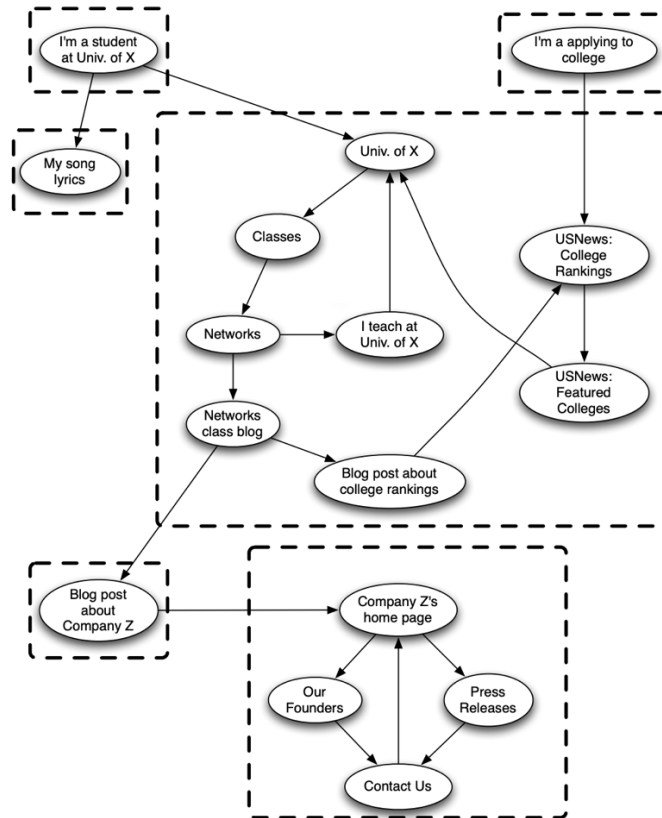


VE444 Networks
Quiz 3, Nov.4.2020

1. Construct a balanced outcome of network exchange for the following graph :



2. For the following graph, identify the set of nodes that constitutes the largest strongly connected component(SCC). Taking this as the giant SCC, which nodes then belong to the sets IN and OUT defined in the bow-tie structure, and which nodes belong to the tendrils or tubes.



3. Suppose a search engine has two ad slots that it can sell. Slot a has a clickthrough rate of 10 and slot b has a clickthrough rate of 4. There are three advertisers who are interested in these slots. Advertiser x values clicks at 3 per click, advertiser y values clicks at 2 per click, and advertiser z values clicks at 1 per click. Compute the outcome of ad slots allocation following the VCG rules.