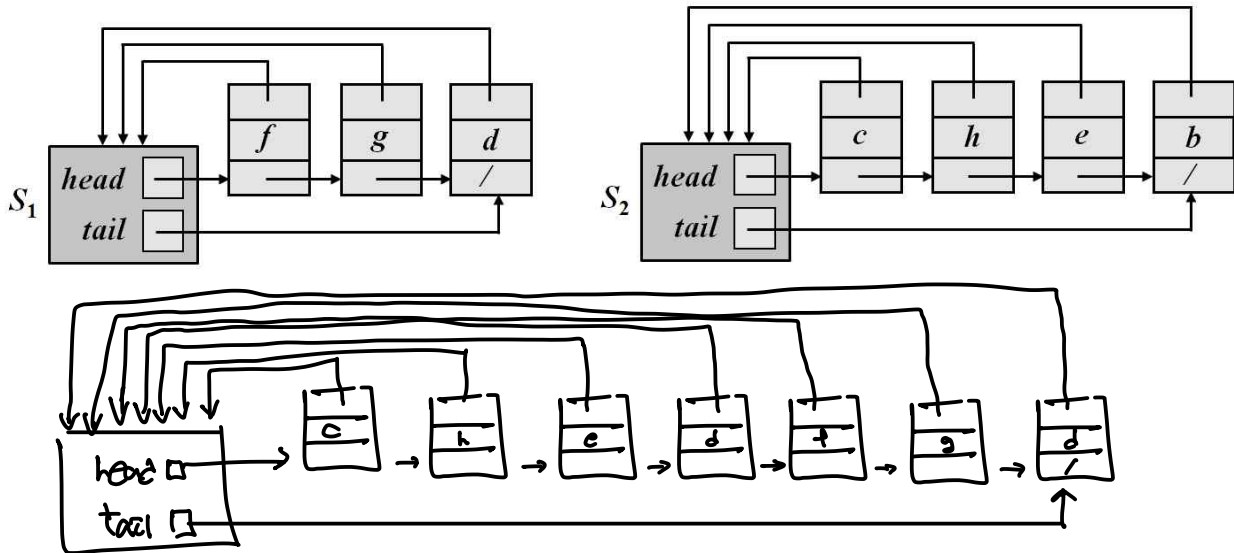


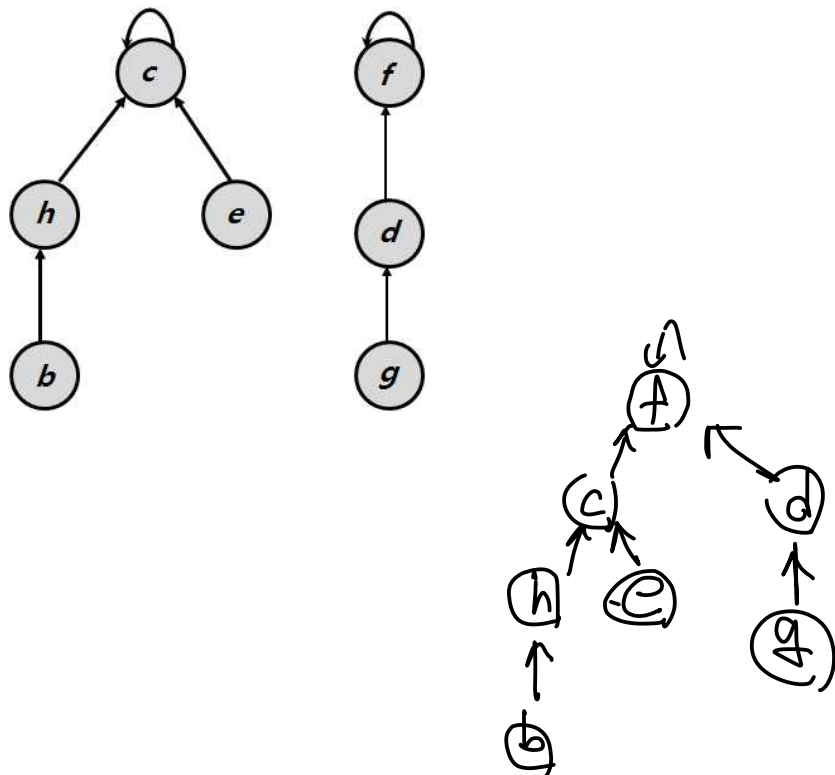
# Review 13

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1. Show the result of  $\text{UNION}(g, e)$  of the following Set  $S_1$  and  $S_2$  by the weighted-union heuristic.



2. Show the result of  $\text{UNION}(e, g)$  of the following two trees where the union-by-rank heuristic is used and the rank of  $c$  is smaller than the rank of the  $f$ .



3. Show the shape of the tree after path compression followed by  $\text{FIND-SET}(a)$ .

