Problem Set 5

Name: BUAA-TYZ

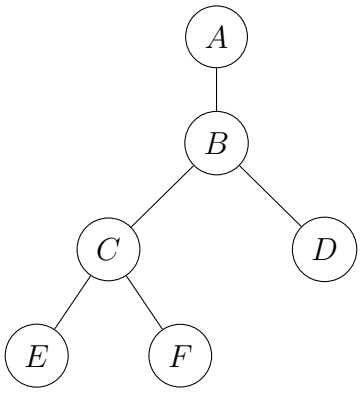
Collaborators:

Problem 5-1.

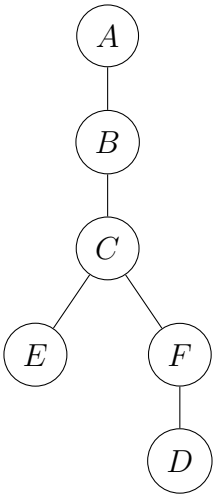
(a) pass

(b) pass

(c)



BFS: A B C D E F



DFS: A B C E F D

(d)
1. Remove D->F: A, B, C, E, F, D
2. Remove F->D: A, B, C, D, E, F

Problem 5-2. For each plant, it builds an undirected graph with supported buildings. Do a BFS for each plant, which costs $O(|V| + |E|)$. And $|E| <= \binom{n^2}{2} = O(n^4)$, we salely conclude that this algorithm safisfies the need.

Problem 5-3. If we think about the conception: Indegree, then it's easy. For a robot, if it's Indegree is two, then it's impossible to achieve the goal. So we just calculate the Indegree of each robot and judge whether it is smaller than 2. The algorithm scans all pairs once, which takes $O(n)$

Problem 5-4. pass

Problem 5-5.

Problem 5-6.

(a)

(b)

(c)

(d) Submit your implementation to `alg.mit.edu`.