COMPSCI 342: Data Structures and Algorithms
Homework 5 (20 points), Due Date: 13th April

1. Exercise 18.2-4. (10 points)

2. For the disjoint-set problem we discussed a heuristic for the operation `find`, where we halved the path to the root by making every other node on the path point to its grandparent. This heuristic along with balancing used in the `union` ensures that m operations take $O(m \lg^* n)$ time. Write a recursive as well as an iterative version of `find` with path-halving. (10 points)