**Summary of disjoint sets data structure:**

* Disjoint set is a data structure that tracks sets of elements partitioned in number of non-overlapping sets. Input data can be inserted via the union of two sets, when we union two sets, we can base it on size, height, or rank. In this assignment, we based it on rank, which is an estimation of height, so that when we link two sets, we reduce time complexion (because moving a taller tree to a shorter tree is more work. We can also use the find operation to determine whether two numbers are in the same set or have the same parent.

**Applications for disjoint sets data structure:**

* Cable network companies, use Kruskal’s algorithm to find shortest path for cables across cities
* Graphing application, like Kruskal’s algorithm
* Network connectivity, if sets of computer are connected, do not connect them again
* Maze generation

**Big-Oh for operations:**

* setFind(): O(n) first time, O(1) after (for same element) due to path compression
* setUnion(): O(n) because we use setFind() in it