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Assignment #9
CS 302-1004

Disjoint sets data structure tracks a set of elements partitioned in to a number of disjoint subsets. It provides almost constant time operations to add new sets and to merge the existing sets and also to check if elements are in the same set.

Disjoint sets data structure applications

- Used to find minimum spanning tree in Kruskal's algorithm
- Tarjan's off-line least common ancestors algorithm
- Use for online maintenance of bi-connected components
- Alias analysis
- Used in construction of contour trees
- Connected components labeling

Big Oh for setFind = $O(n)$

Big Oh for setUnion = $O(n)$