Class Summary

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Problems

Minimum spanning tree (Prims, Kruskal, Reverse Delete)
Topological Sorting
Bipartite Testing
Sorting (Heap sort, Merge Sort)
Counting Inversions
Closest pair of points
Subset Sun
Knapsack
RNA Folding
Traveling Salesman

Shortest paths (Bellman-Ford, Dijkstra's)
Sequence Alignment
Segmented Least Squares
Ordering Matrix Multiplication
Maximum Network Flow
Minimum Cut
Bipartite Matching
Circulation with Demands
Linear Programming
A*

Algorithm Design Techniques

- Greedy tree growing
- Depth-first search
- Breadth-first search
- A*
- Divide and conquer
- Dynamic Programming
- Network Flow
- Linear programming

Data Structures

- Graphs
- Heaps
- Union-Find
- Binary search trees
- Optimal binary search trees
- Splay trees

Other Topics

- Big-Oh notation
- NP completeness