Topic Review for Finals

# Gale-Shapley and Stable Matching

Meow

# Greedy Algorithms

## Unweighted Interval Scheduling

meow

## Minimum Spanning Tree

### Kruskal

meow

### Prim

meow

### Borůvka

meow

## Huffman Coding

Not done in homework or practice sets. Do not need to know proof. Just need to know reduction to other problems.

# Dynamic Programming

## Weighted Interval Scheduling

meow

## Segmented Least Squares

Not done in homework or practice sets. Do not need to know proof. Just need to know reduction to other problems.

## Sequence Alignment

Not done in homework or practice sets. Do not need to know proof. Just need to know reduction to other problems.

## Bellman-Ford

meow

# Divide and Conquer

## Integer Multiplication

meow

## Convolution

Only to recognize a convolution problem, not details of how to run the algorithm.

# Randomized Algorithms

## Linear-Time Median Finding

meow

## Hashing

meow

## Prime Testing

# Network Flow

## Ford-Fulkerson

meow

## Min Cut

meow

## Applications

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# NP-Completeness

## SAT problem

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## Independent Set

meow

## Vertex Cover

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## Set Cover

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## Hamiltonian Path

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## Traveling Salesman Problem

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# Computability

## Halting Problem

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## Co-Halting Problem

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## Accept Problem

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# Approximation Algorithms

## Greedy Methods

### Knapsack

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## Linear Programming

### Vertex Cover

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