(28th March)

Parameterized and Approximation Algorithms

Tackle NP complete problems in an exact way. Next two weeks... design and complexity (np-hardness, np-completeness).

Choose a paper that is about an algorithm (and some algorithmic idea) as opposed to understanding the complexity...

0.1 NP (non-deterministic polynomial) Recall

np-easy is a function problem that are solvable in polynomial time. Whereas **np-hard** is a function problem where all known algorithms for a function problem have exponential complexity

1 Dominating Set (DS) Problem

A graph $G = (V, E)$ and a non-negative integer k. Question. Is there a subset $V\prime \subseteq V$ such that $|V\prime| \leq k$ and each vertex in V
$V\prime$ is adjacent to at least one vertex in $V\prime$.

This is np-complete (np-hard)