Computational Complexity

K. Subramani, LCSEE, West Virginia University

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1 Graph problems

- 1. Independent set.
- 2. Vertex cover and Clique.
- 3. 3-Colorability.
- 4. MaxCut.
- 5. Max Bisection.
- 6. Bisection Width.

2 Number problems

- 1. Subset-Sum.
- 2. 2-partition.
- 3. Knapsack.

3 Power of Integer Programming

- 1. Reduce SAT variants to IP.
- 2. Reduce graph optimization problems to IP.
- 3. Reduce number problems to IP.

4 Paths, trees and Circuits

- 1. s-t Directed Hamilton path.
- 2. Global directed Hamilton path.
- 3. Directed Hamilton circuit.
- 4. Undirected Hamilton path.
- 5. Undirected Hamilton circuit.
- 6. Longest path.
- 7. Longest circuit.
- 8. Degree-restricted minimum spanning tree.
- 9. Exact Spanning tree.