

# CS 561, HW6

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*Due: Nov 29th*

1. Prove via induction that any tree over  $n$  nodes has exactly  $n - 1$  edges.
2. Exercise 23.2-8 New MST algorithm
3. Problem 23-3 “Bottleneck Spanning Tree”
4. Problem 23-4 “Alternative MST Algorithms”
5. Prove Claim 1 from Lecture 10
6. Prove Claim 2 from Lecture 10
7. Problem 24-2 Nesting Boxes
8. Problem 24-3 Arbitrage
9. Exercise 25.2-1 “Run the Floyd-Warshall algorithm”
10. Problem 25-1 Transitive Closure of a Dynamic Graph