

CSE 6331, Fall, 2012
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CSE6331 Homework 8
Due Thursday, November 8

1. Suppose that we redefine the residual network to disallow edges into s . Argue that the procedure Ford-Fulkerson still correctly computes a maximum flow.
2. Exercise 26.2-11, page 731 (3rd edition), 26.2-9, page 664 (2nd edition)
3. In the class we wrote a linear program for the max-flow problem. Rewrite it so that it uses only $O(|V| + |E|)$ constraints.
4. In the single-source shortest-paths problem, we want to find the shortest-path weights from a source vertex s to all vertices $v \in V$. Given a graph G , write a linear program for which the solution has the property that d_v is the shortest-path weight from s to v for each vertex $v \in V$.