

Cs545 — Homework #3.5  
Dynamic Programming  
Due Wed 11/1/06

1. 15.3-3
2. 15.4-5
3. Modify Warshall-Floyd algorithm, so the running time is not changed ( i.e. remains  $O(n^3)$ ), the space needed is not changed ( i.e. remains  $O(n^2)$ ), but after the algorithm terminates, once we are given a pair of vertices  $v_i, v_j$ , we can find the shortest path from  $v_i$  to  $v_j$  in time  $O(k)$ , where  $k$  is the number of edges along this path.
4. 15.4-4
5. Problem 15-5