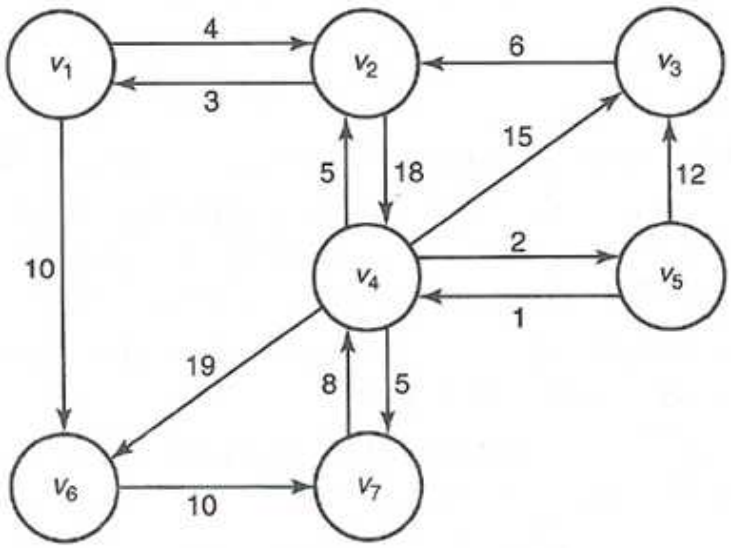
알고리즘 2021 과제 4 (10/15까지)

0. 10월 15일 (금) 오후 5:00 제출 마감 (스마트캠퍼스에서 반별로 온라인 제출)
과제 파일명은 '[출석번호]**과제4_홍길동_00000000.zip**'**으로 제출**
(000000000은 학번, 홍길동의 이름임)

1. Use Floyd's algorithm for the Shortest Paths problem 2 (Algorithm 3.4) to construct the matrix D, which contains the lengths of the shortest paths, and the matrix P, which contains the highest indices of the intermediate vertices on the shortest paths, for the following graph. Show the actions step by step.



2. Use the Print Shortest Path algorithm (Algorithm 3.5) to find the shortest path from vertex v_7 to vertex v_3, in the graph of Exercise 5, using the matrix P found in that exercise. Show the actions step by step.

3. 위 그래프에서 v_1 => a_6, v_2 => a_5, v_3 => a_4, v_4 => a_3, v_5 => a_2, v_6, => a_1, v_7 => a_7로 바꾸어서 Shortest Path Problem 2 (Algorithm 3.4)를 다시 해결하도록 한다.
Matrix D와 P를 구하시오.

4. Algorithm 3.5를 적용하여 노드 a_7에서 a_4로 가는 shortest path를 찾고, 그 결과를 문제 2에서 구한 결과와 비교하시오.

5. Create the optimal binary search tree for the following items, where the probability occurrence of each word is given in parentheses: CASE (.05), ELSE (.15), END (.05), IF (.35), OF (.05), THEN (.35).