

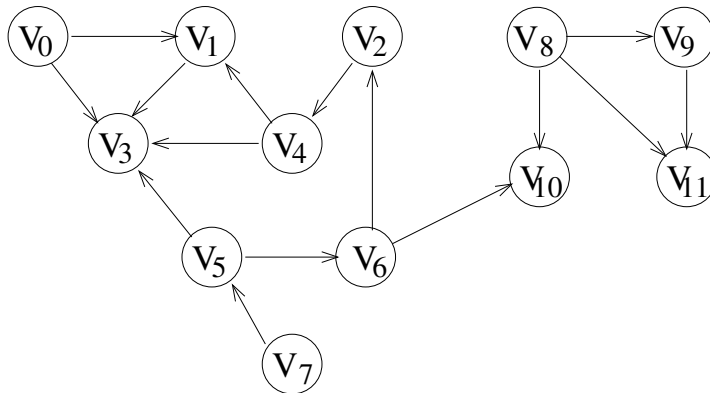
Topological Sort of a Directed Acyclic Graph (DAG)

A *topological sort*¹ of a directed acyclic graph $G = (V, E)$ is an ordering (list) of the vertices $L = (v_{i_1}, v_{i_2}, v_{i_3}, \dots, v_{i_n})$ such that if (u, v) is an edge in E , then u comes before v in the list L .

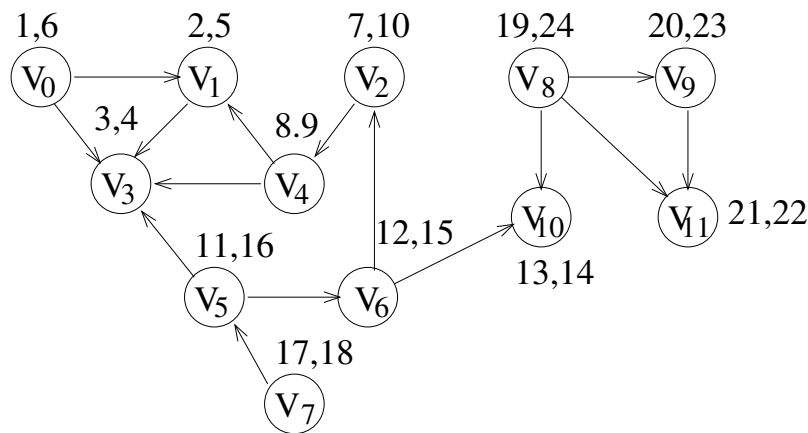
Method:

1. Do a depth first search with pre- and post-numbers
2. Sort the nodes in decreasing order of post-number

Example DAG:



Example DAG with DFS Numbers:



Topological Sort:

Node:	v_8	v_9	v_{11}	v_7	v_5	v_6	v_{10}	v_2	v_4	v_0	v_1	v_3
Post #	24	23	22	18	16	15	14	10	9	6	5	4

¹Topological sort has application to task ordering, and the drawing of Gantt Charts.