TOPOLOGICAL SORT.

A Topological sort is an ordering of vertices in a directed acylic graph, such that if there is a path from v_i to v_j then v_j appears after v_i in the order. (i.e. v_i, v_j)

## ALGORITHM :

Step 1 : Find the indegree for every vertex.
Adjacency matric

Step 2 : Find the indegree for every vertex

Step 3 : place the vertices whose indegree is '0' on the empty queue.

Step 4 : Dequeue the vertex v and decrement the indegree's of all its adjacent vertices.

Step 5 : Enqueue the vertex on the queue, y its indegree falls to zero.

Step 6 : Repeat from step 3 until the queue becomes empty.

Topological sorting,
It sorts the elements in directed acyclic graph.
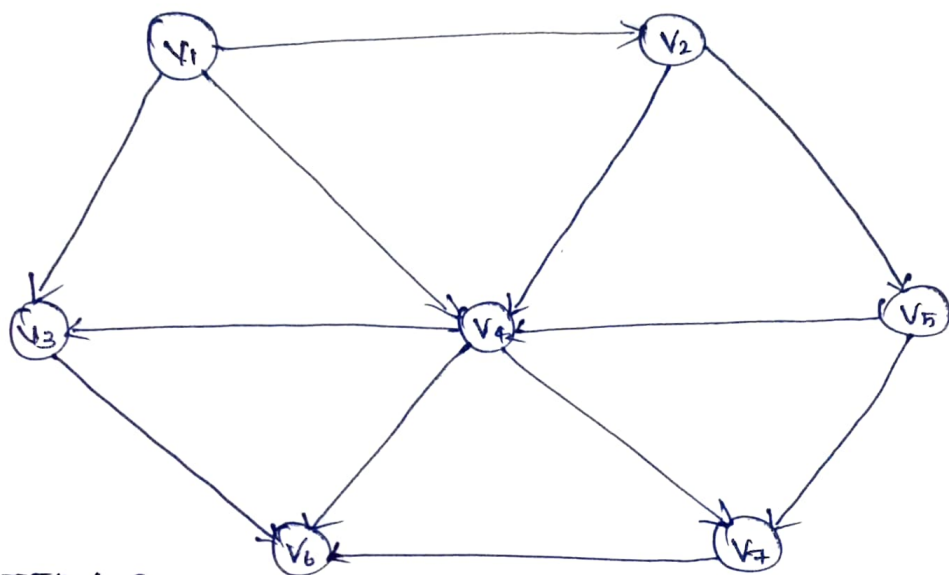
STEP 1 :

ADJACENCY MATRIX :

	V_1	V_2	V_3	V_4	V_5	V_6	V_7
V_1	0	1	1	1	0	0	0
V_2	0	0	0	1	1	0	0
V_3	0	0	0	0	0	1	0
V_4	0	0	1	0	0	1	1
V_5	0	0	0	1	0	0	1
V_6	0	0	0	0	0	0	0
V_7	0	0	0	0	0	1	0

Step 3: INDEGREE OF THE GIVEN GRAPH

	1	2	3	4	5	6	7
V_1	→0	0	0	0	0	0	
V_2	1	→0	0	0	0	0	
V_3	2	2̶1	1	1	→0	0	
V_4	3	2	1	→0	0	0	
V_5	1	1	→0	0	0	0	
V_6	3	3	3	3	2	1	
V_7	2	2	2	1	→0	0	
Enqueue	V_1	V_2	V_5	V_4	V_3, V_7		V_6
Dequeue	V_1	V_2	V_5	V_4	V_3 $V_7 V_7$	V_6	

Step 4: TOPOLOGICAL ORDERING..

$$V_1, V_2, V_5, V_4, V_3, V_7, V_6$$

(OR)

$$V_1, V_2, V_5, V_4, V_7, V_3, V_6$$