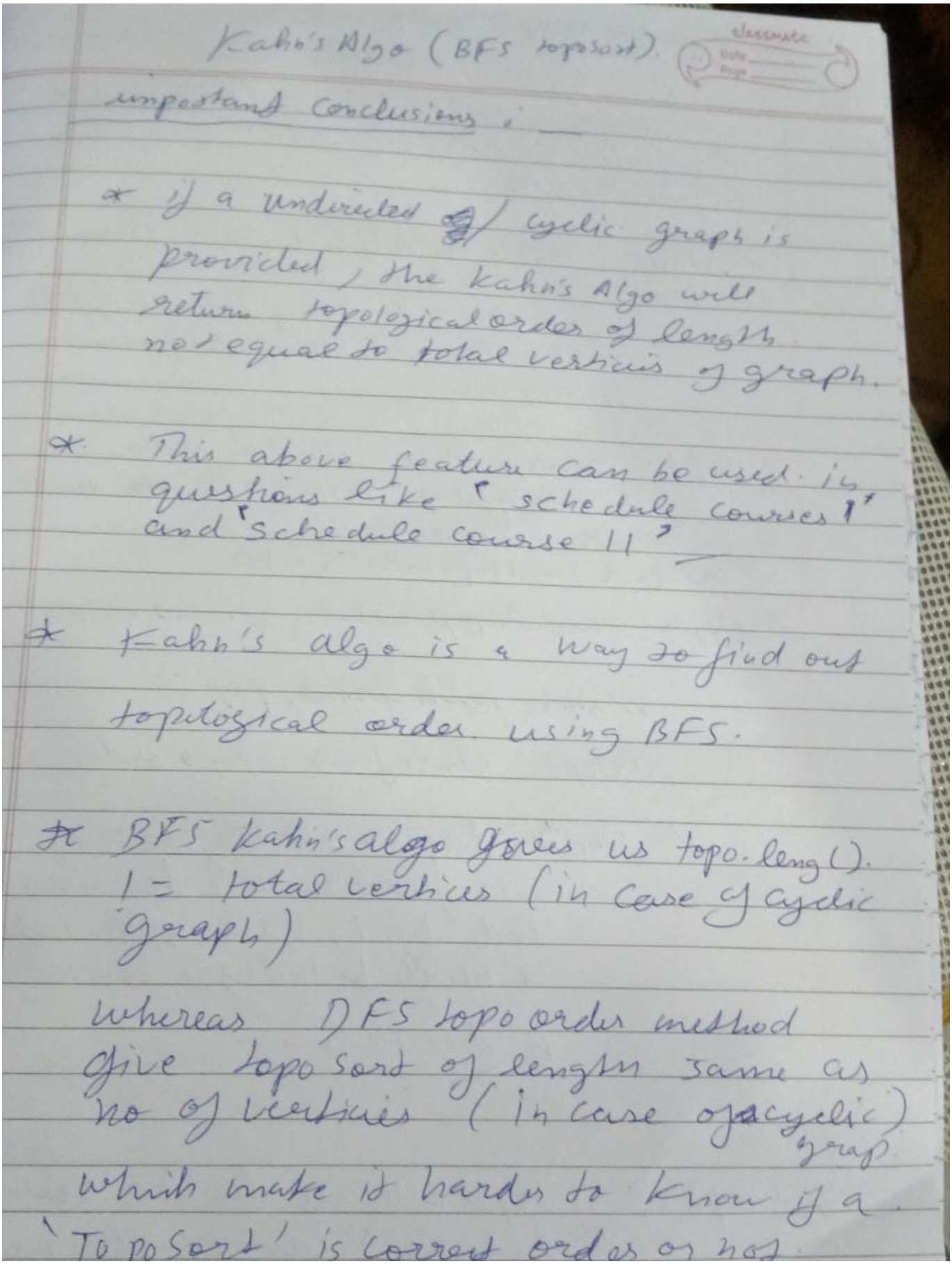
Course Schedule II



Kahn's Algo (BFS toposort).

important conclusions :-

* if a undirected / cyclic graph is provided, the kahn's Algo will return topological order of length not equal to total vertices of graph.

* This above feature can be used in questions like 'schedule courses I' and 'schedule course II'.

* Kahn's algo is a way to find out topological order using BFS.

* BFS kahn's algo gives us topo.leng() != total vertices (in case of cyclic graph)

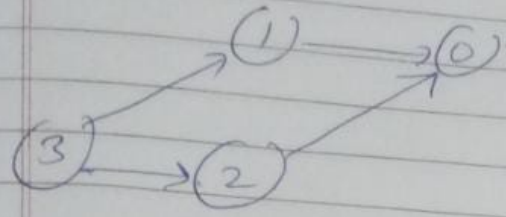
whereas DFS topo order method give topo sort of length same as no of vertices (in case of acyclic graph) which make it harder to know if a 'TopoSort' is correct order or not.

in case of DFS topo sort

Course Schedule II

numCourse = 4.

[[1,0],[2,0],[3,1],[3,2]].



0 →
1 → 0
2 → 0
3 → 1, 2

Topo order (using Kahn's algo) :—

Indegree.

0	0	0	0
0	1	2	3

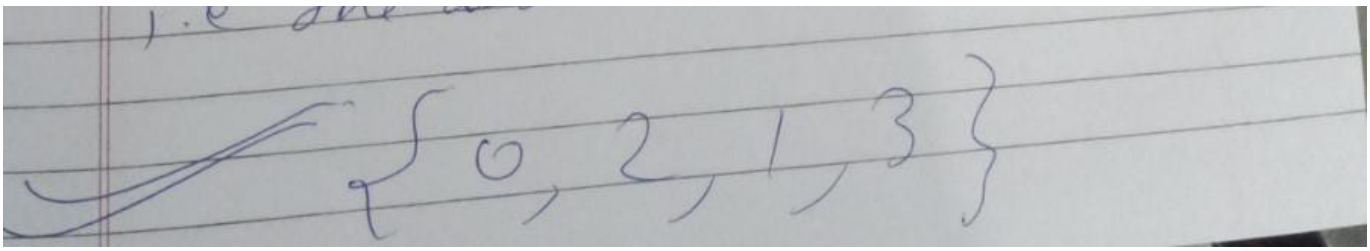
q:

3	1	2	0

topoorder = {3, 1, 2, 0}.

But here for course 3 we need to complete 1, 2, 0.

i.e. the correct order is rev of topo sort


{0, 2, 1, 3}