

Module: Elementary Data Structures

CSE 674 Advanced Data Structures and Algorithms

Class Activity: A data structure for topological sorting

Question

Consider the following table, which record a number of college courses and their pre-requisites.

Course	Pre-requisites
612	400, 411
818	412, 612
411	311
412	113, 311, 420
420	113

Specify a partial order

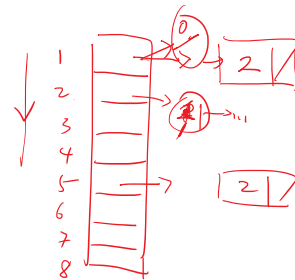
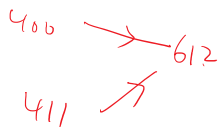
Design a data structure and use it to compute an order of taking these courses so that the pre-requisite requirements are all met.

Answer

(1) Simplify.

1	2	3	4	5	6	7	8
400	612	818	412	411	420	311	113

(2) 612 requires 400
612 .. 411



1 7 5 2 8 6 4 3



Answer: .

m

succ.-pred relations

$O(m)$



