Question 1 — 1 / 1 point

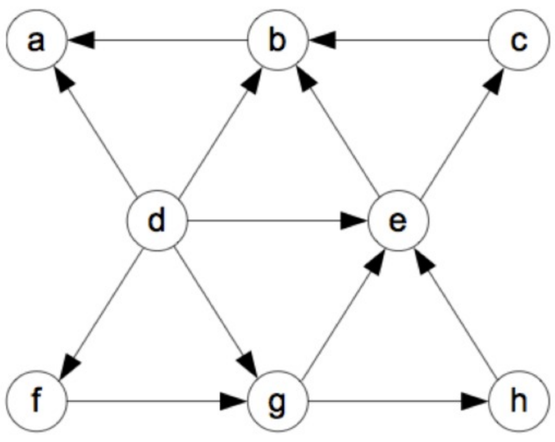
Consider a number of courses where:

100 is a prerequisite for 101 and 200
101 is a prerequisite for 202
200 is a prerequisite for 101 and 201
201 is a prerequisite for 202

Give a valid topological sort order for these courses. State your answer as a list of comma separated values, with no spaces or extraneous characters, for example: 100,200,300

Answer: 100,200,101,201,202 ✔

Question 2 — 1 / 1 point



Apply the dfs based topological sort algorithm to the above graph. Start at vertex c. Resolve ties in lexicographic order.

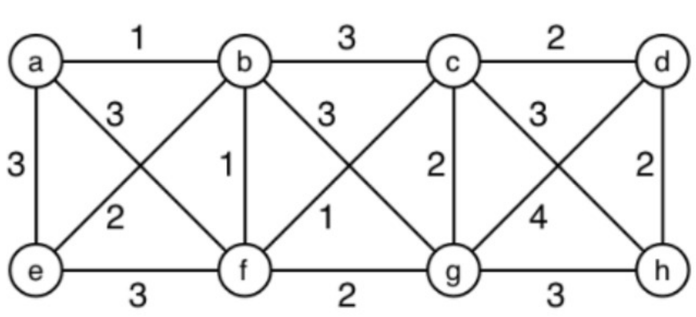
Give the order that the vertices become dead-ends (ie: the reverse topo sort order). State your answer as a string or vertices eg: abcdefgh

Answer: abcehgfd ✔

Question 3 — 1 / 1 point

Apply prims algorithm to the graph shown below. Start at vertex a, and resolve ties by choosing the vertex that comes first in lexicographic order.

Give the order that the vertices are added to the solution MST. Your answer should be a string of vertex labels, with no white space or extraneous characters (for example: abcdefgh).

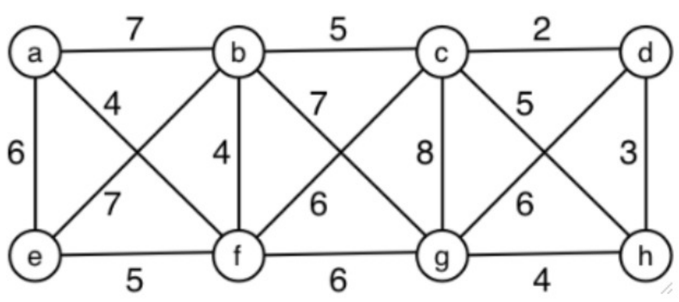


Answer: abfcdegh ✔

Question 4 — 1 / 1 point

Apply Kruskals algorithm to the graph shown below. Resolve ties by choosing the edge that comes first in lexicographic order.

What is the last edge added to the MST by Kruskal's algorithm?

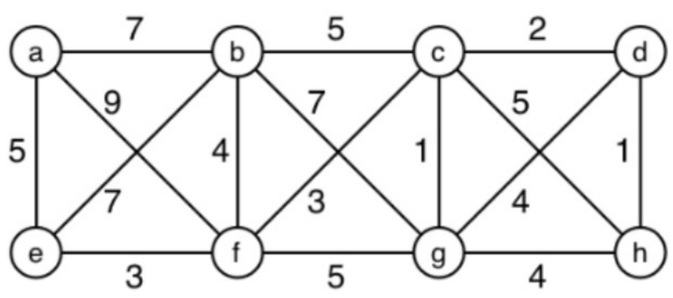


- (b,c)
- (c,h)
- ✔ (e,f)
- none of the above

Question 5 — 1 / 1 point

Apply Dijkstra's algorithm to the graph shown below, starting at vertex a.

Give the resulting distance vector at the end of the algorithm. Enter your answer as comma separated string of ints, with no spaces or extra chars. For example, if my final distance vector is d[] = [3,0,1,3,3,6,1], I would enter 3,0,1,3,3,6,1 as my answer to the question.



Answer: 0,7,11,13,5,8,12,14 ✔