

Activity 5

Due May 5 at 12pm	Points 15	Questions 10		
Available May 5 at 11:15am - May 5 at 11:59pm	about 13 hours	Time Limit 30 Minutes	Allowed Attempts 2	

This quiz was locked May 5 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	11 minutes	15 out of 15

❗ Correct answers are hidden.

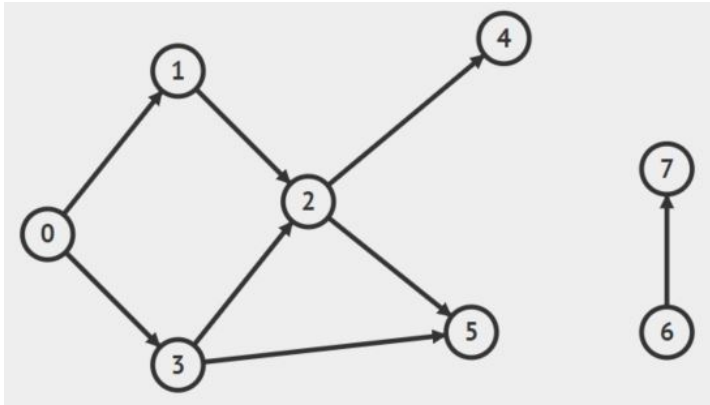
Score for this attempt: **15** out of 15

Submitted May 5 at 11:37am



This attempt took 11 minutes.

Question 1	2 / 2 pts



Which of the following is a topological sort of the graph above.

☐ 7, 6, 5, 2, 4, 3, 1, 0

☒ 6, 7, 0, 1, 3, 2, 5, 4

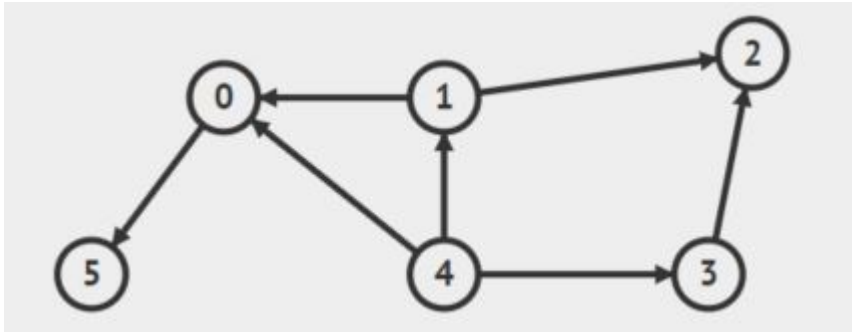
☐ 0, 1, 2, 3, 4, 5, 6, 7

☐ 0, 3, 2, 5, 1, 4, 6, 7

☐ None of the above

Question 2

2 / 2 pts



A Breadth First Search Algorithm has been implemented using a queue data structure. One possible order of visiting the vertices of the graph above is:

☐ 0, 5, 4, 1, 2

☐ 4, 1, 0, 5, 2, 3

☒ 4, 0, 1, 3, 5, 2

☐ 1, 0, 5, 2, 4, 3

☐ None of the above



Question 3

2 / 2 pts

Given two vertices s and t in a connected graph G , which of the two traversals, BFS and DFS can be used to find if there is a path from s to t ?

- ☐ Only DFS
- ☐ Only BFS
- ☒ Both BFS and DFS
- ☐ Neither BFS nor DFS

Question 4

2 / 2 pts

Let G be a graph with n vertices and m edges. Assume that the graph is represented by an adjacency matrix. What is the tightest upper bound on the running time of DFS performed on G ?

- ☒ $\Theta(n^2)$
- ☐ $O(m+n)$
- ☐ $O(mn)$
- ☐ $O(m)$
- ☐ $\Theta(n)$



Question 5**1 / 1 pts**

In an undirected graph with edge weights that are all 1, a BFS from vertex s to some vertex t will always produce a shortest path from s to t .

☒ True

☐ False

Question 6**1 / 1 pts**

In an undirected graph with edge weights that are all 1, a DFS from vertex s to some vertex t will always produce a shortest path from s to t .

☐ True

☒ False

Question 7**1 / 1 pts**

In an undirected weighted graph with distinct edge weights, the lightest edge is in the MST.



☒ True

☐ False

Question 8

1 / 1 pts

In an undirected weighted graph the heaviest edge is never in the MST.

☐ True

☒ False



Question 9

1 / 1 pts

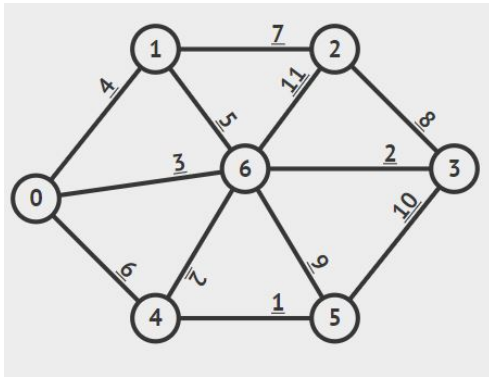
Every directed acyclic graph has exactly one topological ordering.

☐ True

☒ False

Question 10

2 / 2 pts



In the above graph, what is the weight of the MST?



Quiz Score: **15** out of 15