

Module 9 Problem Set

Due Mar 14 by 9:59pm **Points** 15 **Submitting** an external tool **Available** Mar 7 at 10pm - Mar 20 at 9:59pm 13 days

Review Assessment Attempts

Uber, Jacques

Module 9 Problem Set

Started: 3/9/21, 4:00 pm

Last Changed: 3/10/21, 6:39 pm

Total time questions were on-screen: 1587.3 minutes

Due Date: Sun 3/14/21, 9:59 pm

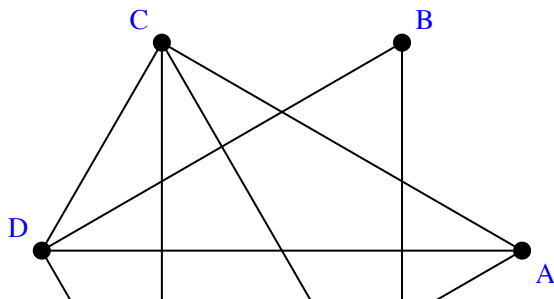
Score in Gradebook: 14/15

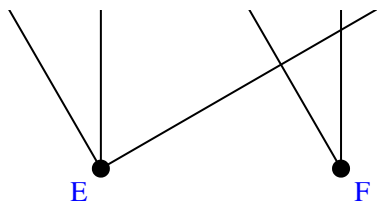
Grade is calculated on the best version of each question

Scored attempt. Score: 14/15.

Question 1.

Version 1*/1. Score: 1/1





What is the degree of vertex B



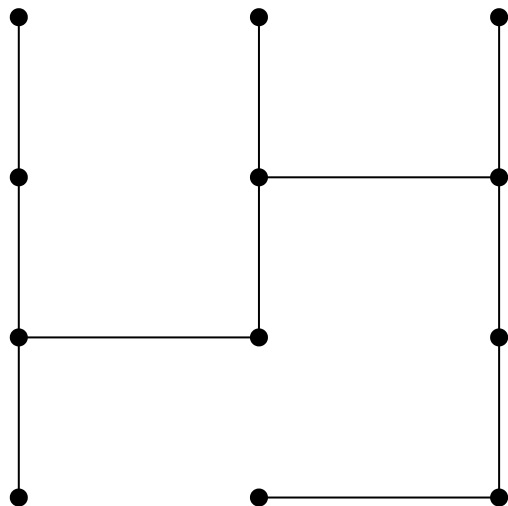
Score: 1/1

Time spent on this version: 0.1 minutes.

✉ [Message instructor](#)


Question 2.

Version 1*/1. Score: 1/1



Is this graph connected?

☐ Not Connected

 Connected



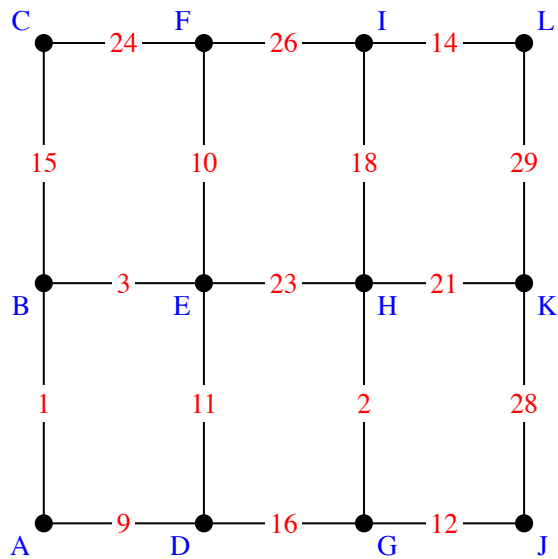
Score: 1/1

Time spent on this version: 0.1 minutes.

 Message instructor

Question 3.

Version 1*/1. Score: 1/1



Find the shortest path from vertex A to vertex L. Give your answer as a sequence of vertexes, like ABCFIL

ABEFIL



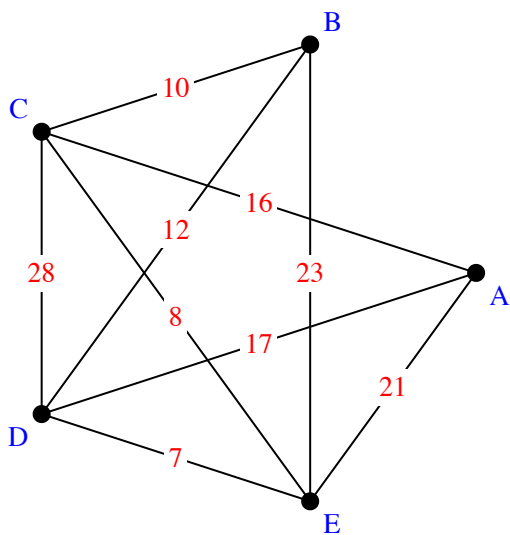
Score: 1 / 1

Time spent on this version: 0.8 minutes.

 Message instructor

Question 4.

Version 1*/1. Score: 1/1



Find the length of the shortest path from vertex A to vertex B.



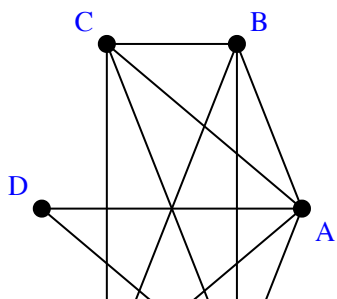
Score: 1/1

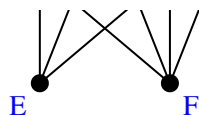
Time spent on this version: 0.4 minutes.

[Message instructor](#)

Question 5.

Version 1*/1. Score: 1/1





Determine whether the graph contains an Euler path or an Euler circuit. *Select the one best response.*

- ☒ The graph contains at least one Euler path, but no Euler circuit.
- ☐ The graph contains at least one Euler circuit (which is also an Euler path).
- ☐ The graph does not contain any Euler paths nor Euler circuits.



Score: 1/1

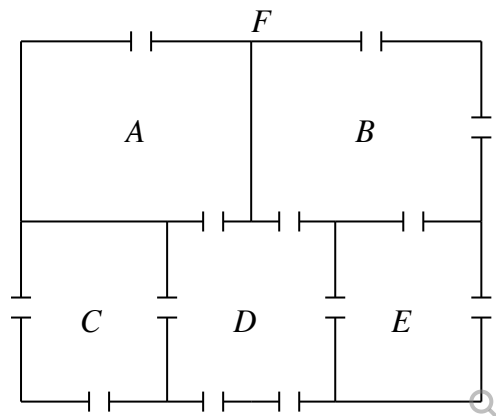
Time spent on this version: 1.4 minutes.

[Message instructor](#)

Question 6.

Version 3*/3. Score: 0/1 ▼

Draw a graph that models the connecting relationships in the floorplan below. The vertices represent the rooms and the edges represent doorways connecting the rooms. Vertex F represents the outdoors.



Is it possible to find a path through the house that uses each doorway once? If so, enter the sequence of rooms(vertices) visited, for example ABDEA. If it is not possible, enter DNE.



<| >

Score: 0/1

Time spent on this version: 4.8 minutes.

[Message instructor](#)**Question 7.**

Version 2*/2. Score: 1/1 ▼

If a graph has 20 vertices with odd degree (valence), what is the smallest number of edges that would need be duplicated to eulerize the graph?

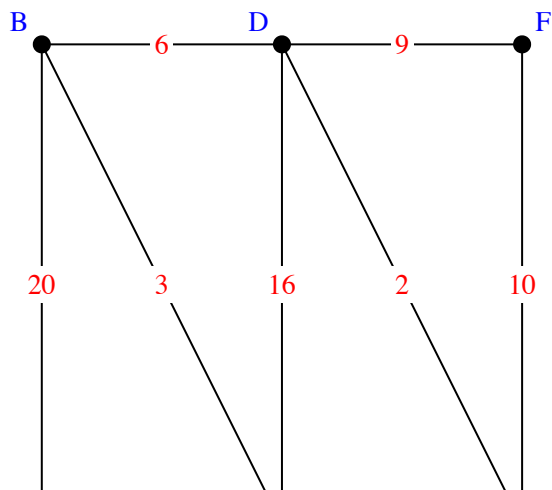


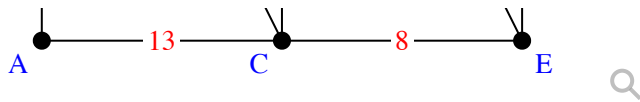
Score: 1/1

Time spent on this version: 0.1 minutes.

[Message instructor](#)**Question 8.**

Version 2*/2. Score: 1/1 ▼





Eulerize the graph above in the most efficient way possible. The weights on the edges represent the cost to duplicate that edge. What is the total cost of your eulerization?



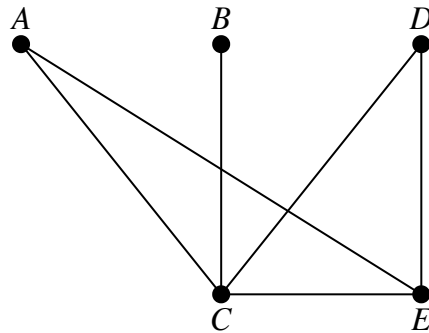
Score: 1/1

Time spent on this version: 0.5 minutes.

[Message instructor](#)

Question 9.

Version 1*/1. Score: 1/1



Is a Hamilton circuit possible for this graph? If so, give your answer as a list of vertices, starting and ending at the same vertex. Example: ABCA If it is not possible, enter DNE.



Is a Hamilton path possible for the given graph? If so, give your answer as a list of vertices, for example, ABCD. If it is not possible, enter DNE.

BCDEA



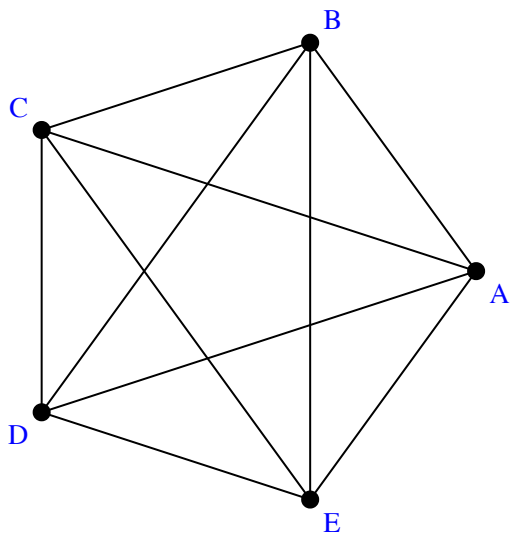
Score: 0.5/0.5 0.5/0.5

Time spent on this version: 0.8 minutes.

[✉ Message instructor](#)

Question 10.

Version 1*/1. Score: 1/1



Find any Hamiltonian circuit on the graph above. Give your answer as a list of vertices, starting and ending at the same vertex. Example: ABCA

ABCDEA



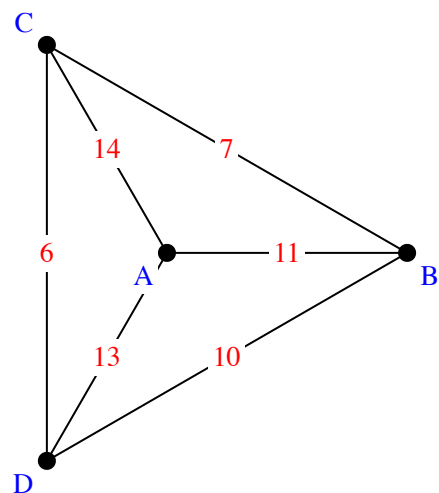
Score: 1/1

Time spent on this version: 0.3 minutes.

[✉ Message instructor](#)

Question 11.

Version 2*/2. Score: 1/1 ▼



Apply the repeated nearest neighbor algorithm to the graph above. Give your answer as a list of vertices (no commas or spaces), starting and ending at vertex A.



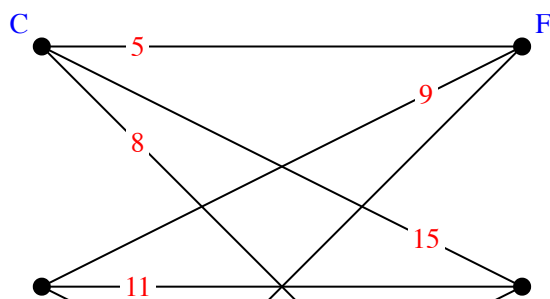
Score: 1/1

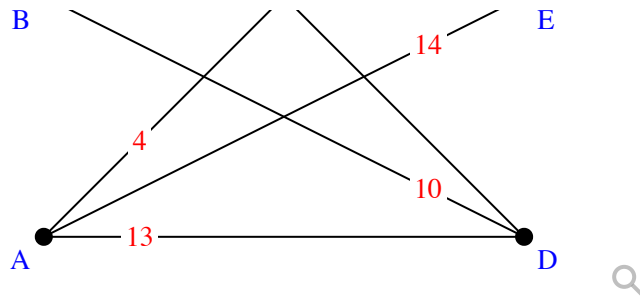
Time spent on this version: 1.7 minutes.

✉ [Message instructor](#)

Question 12.

Version 1*/1. Score: 1/1





Apply the sorted edges algorithm to the graph above. Give your answer as a list of vertices, starting and ending at vertex A. Example: ABCDEFA



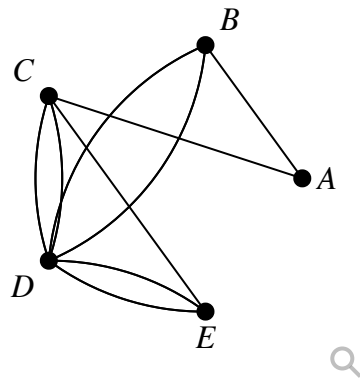
Score: 1/1

Time spent on this version: 3.5 minutes.

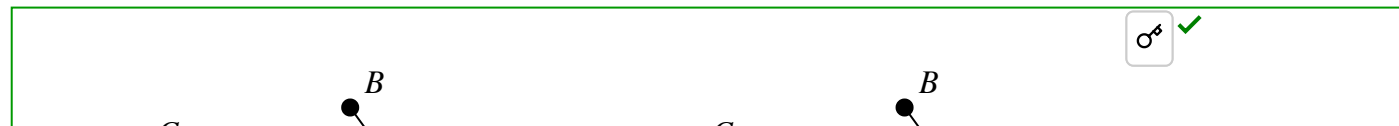
[Message instructor](#)

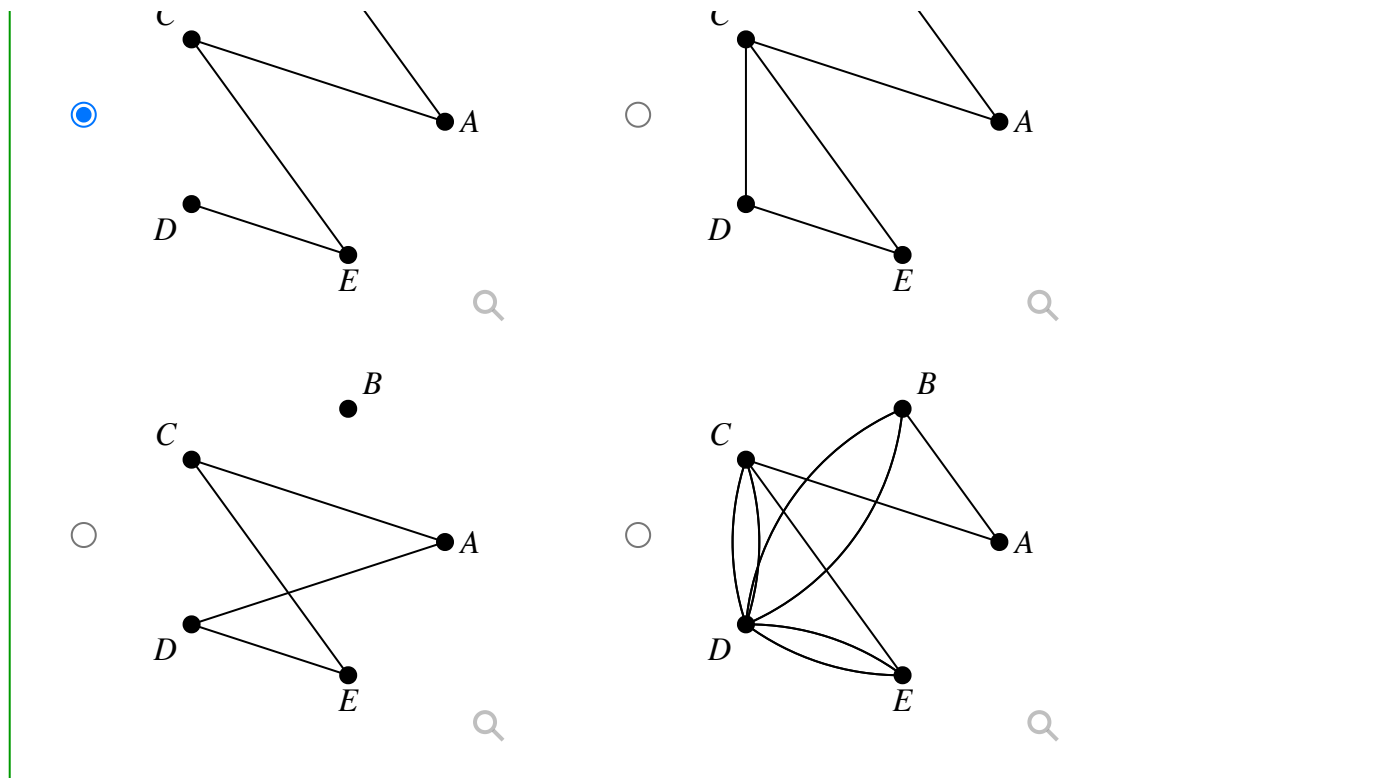
Question 13.

Version 1*/1. Score: 1/1



Select the graph that is a spanning tree for the given graph.





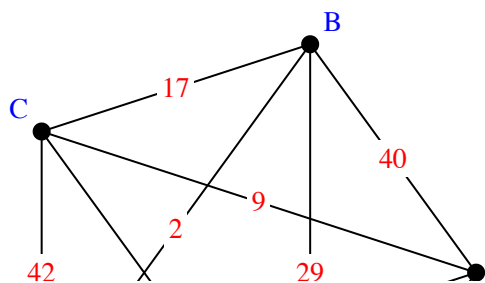
Score: 1/1

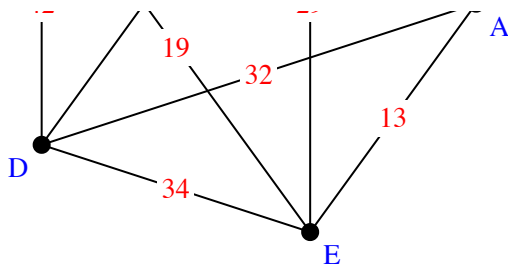
Time spent on this version: 0.3 minutes.

✉ [Message instructor](#)

Question 14.

Version 1*/1. Score: 1/1





Find the minimum cost spanning tree on the graph above using Kruskal's algorithm. What is the total cost of the tree?



Score: 1/1

Time spent on this version: 2.3 minutes.

[Message instructor](#)

Question 15.

Version 1*/1. Score: 1/1

	A	B	C	D	E	F
A	--	33	7	24	40	15
B	33	--	6	2	18	31
C	7	6	--	27	26	35
D	24	2	27	--	16	9
E	40	18	26	16	--	19
F	15	31	35	9	19	--

The weights of edges in a graph are shown in the table above. Find the minimum cost spanning tree on the graph above using Kruskal's algorithm. What is the total cost of the tree?



Score: 1/1

Time spent on this version: 1539.7 minutes.

[Message instructor](#)

Feedback:

[Return to Gradebook](#)