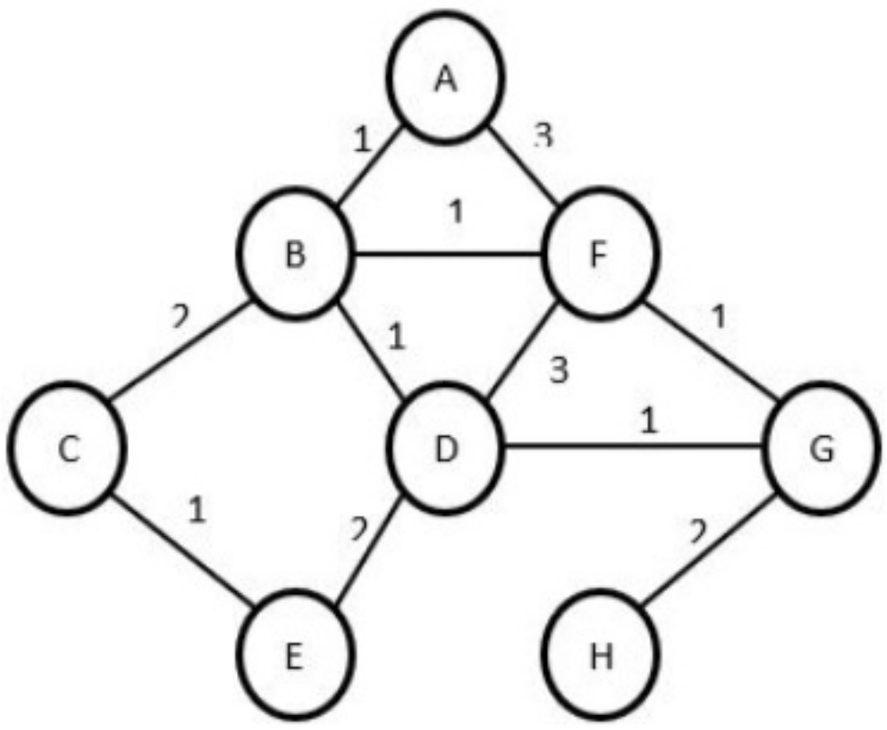
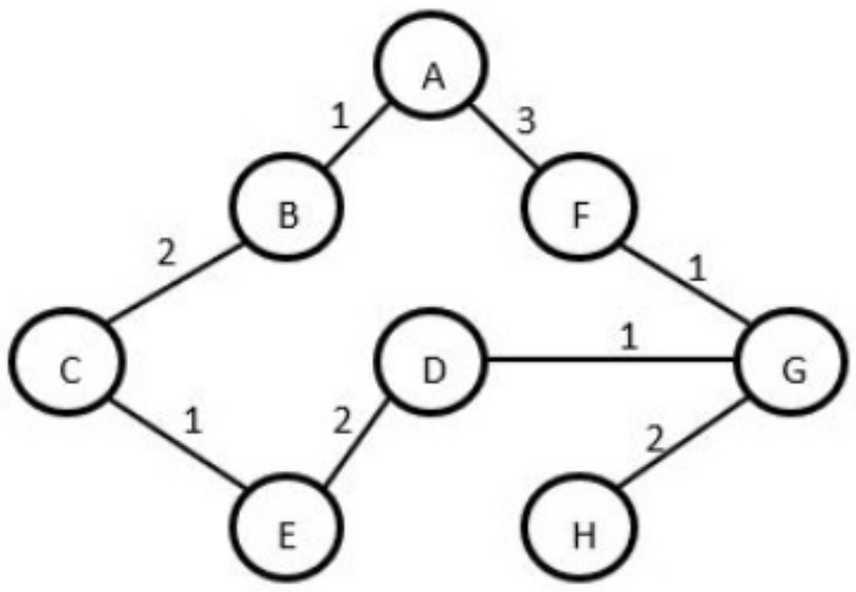
1. Consider the undirected graph shown below: 1 / 1 point



Here is a claimed spanning tree of the graph.



Select all the correct facts from the list below.

- [x] The claimed spanning tree is not an actual tree since it has a cycle.

Correct
Correct.

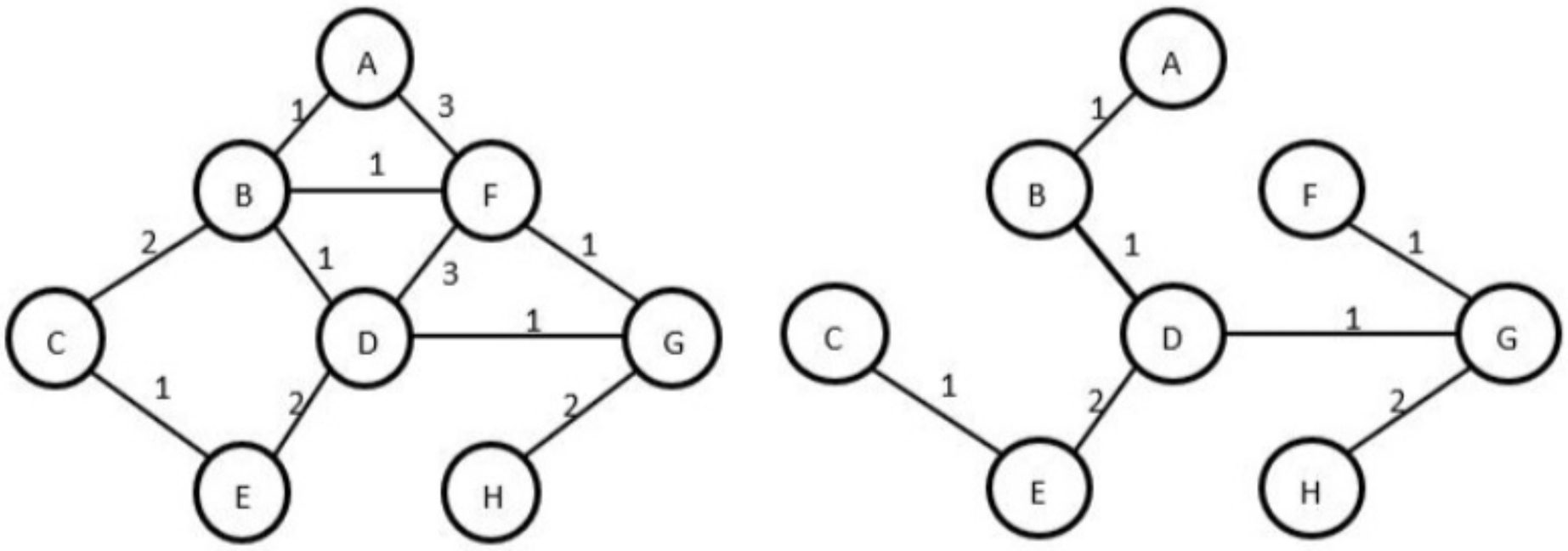
- [ ] The claimed spanning tree is not an actual tree since it leaves out one of the nodes in the original graph.
- [x] Removing the edge A- F from the claimed spanning tree will make it a spanning tree.

Correct
Correct.

- [ ] Removing the edge A-F from the claimed spanning tree yields a minimal spanning tree of the graph.
- [x] A spanning tree for a graph with 8 nodes will have 7 edges.

Correct
Correct.

2. Consider the graph again and what is claimed to be a **minimal** spanning tree on the right. 1 / 1 point



Select all the correct facts from the list below.

- [x] The tree shown is in fact a minimal spanning tree of the graph.

Correct
Correct.

- [ ] The tree shown is not a minimal spanning tree since adding the edge B-F and removing the edge B-D gives us a spanning tree with smaller weight.
- [x] The tree shown is not a *unique* minimal spanning tree: i.e, there are other spanning trees with the same total weight.

Correct
Correct. For instance, add the edge B-F and remove the edge B-D to get another MST for the graph.

- [ ] Adding the edge B-F and removing the edge A-B from the spanning tree yields a spanning tree as well.
- [x] Adding the edge C-B to the spanning tree and removing the edge D-E yields a minimal spanning tree as well.

Correct
Correct. This tree has the same weight as the original tree.