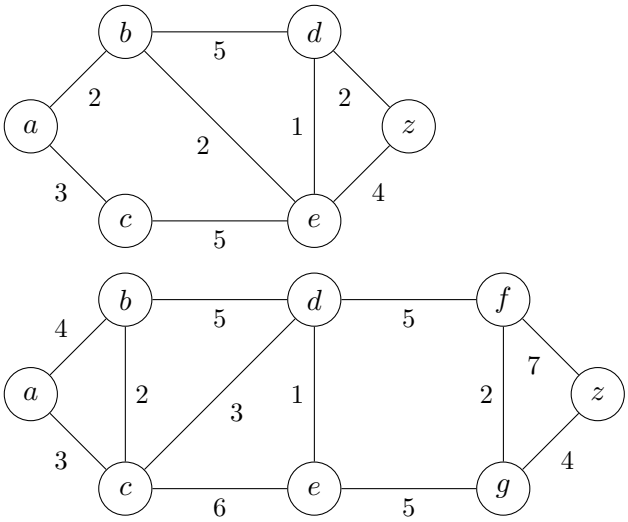
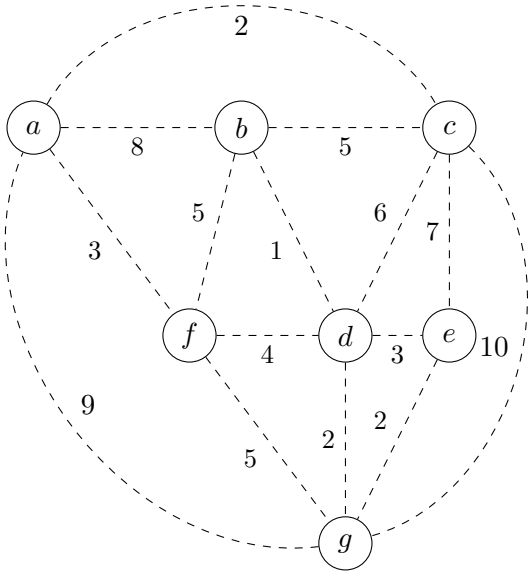
I do not have answers typed for all of these; your best use of these problems is to attempt them and discuss them with your study group; ideally, everyone in the study group will have attempted them individually first. If your answers are the same, this is evidence you are all correct. If they differ, attempt to solve the problem together, discussing how each decision is made. You will likely resolve the discrepancy *and* learn about how these work.

Reinforcement Practice

1. Use Dijkstra's Algorithm to find a single-source shortest path tree starting at a in the following graphs:





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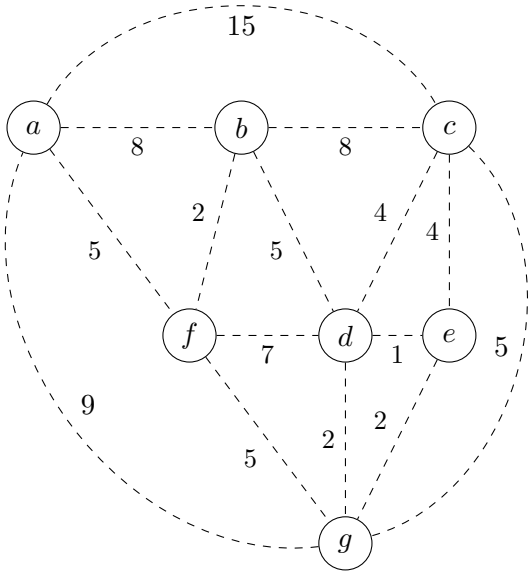

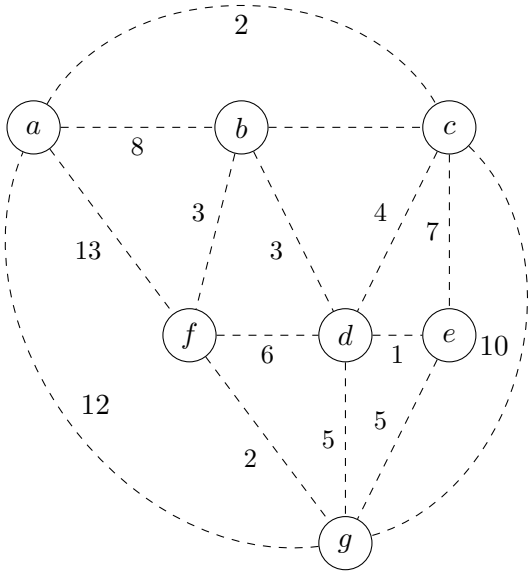

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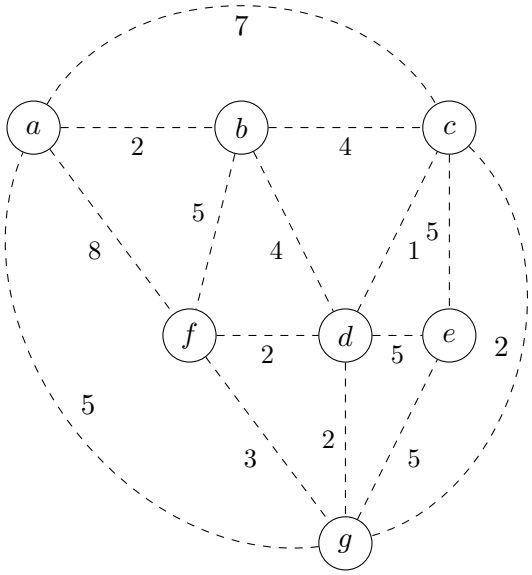
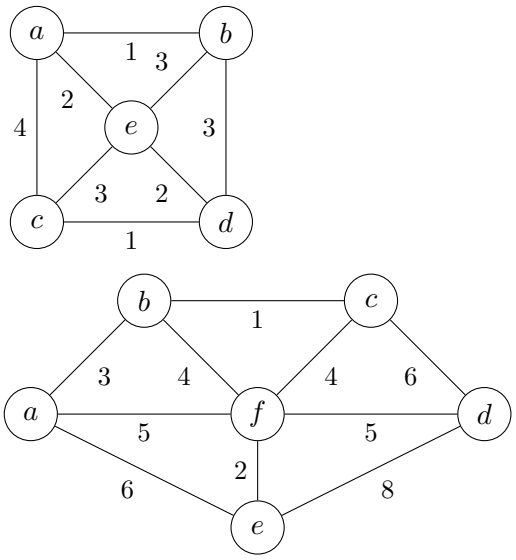


Repeat the exercise starting at other vertices.

2. Find the Minimum Spanning Trees of the following graphs.



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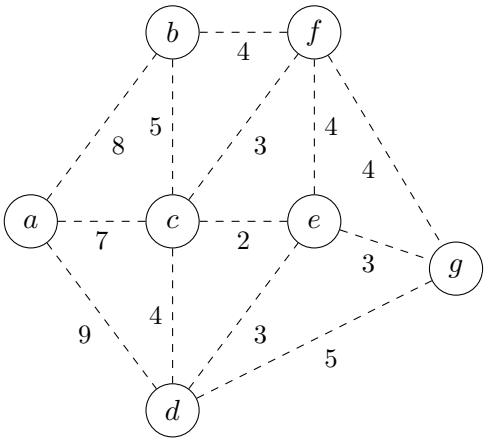

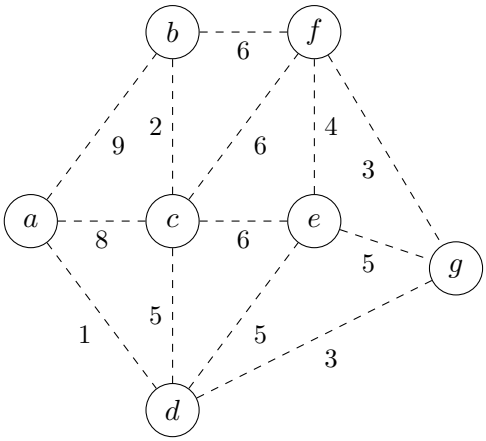

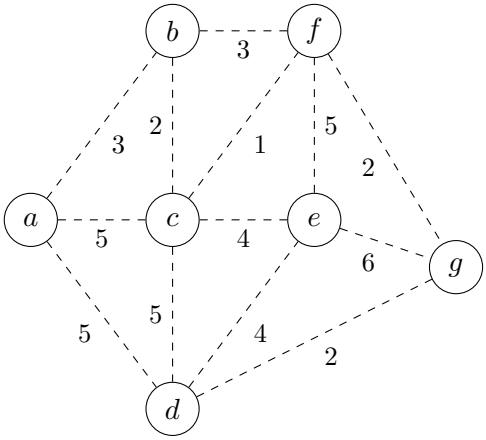

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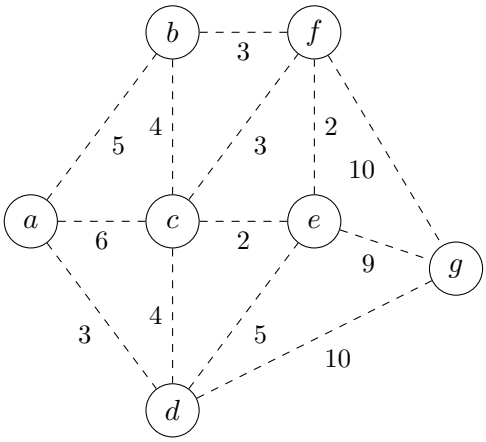
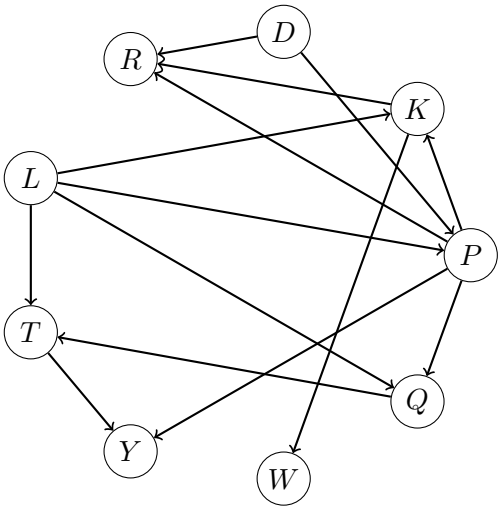
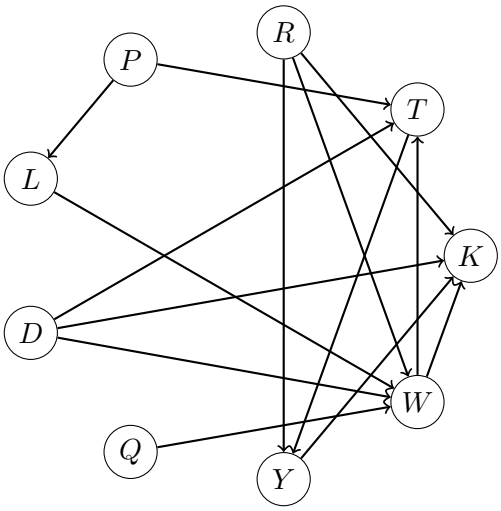


3. Find topological orders of the following graphs.





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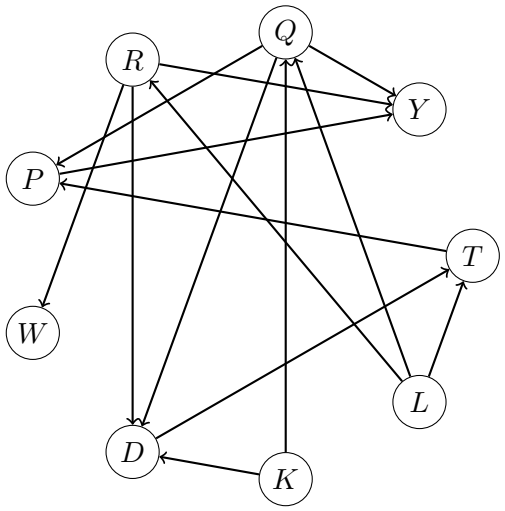

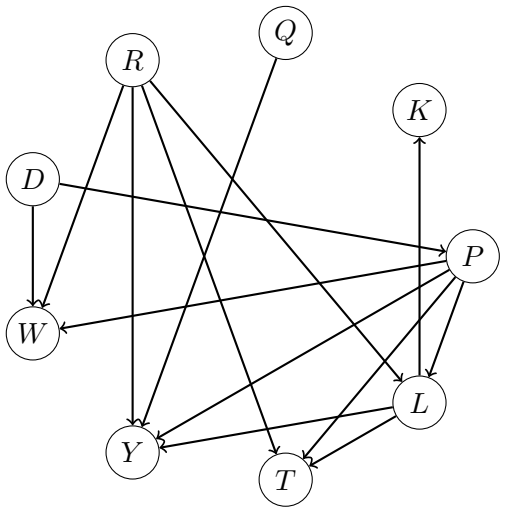

Additionally, the textbook of Goodrich and Tamassia has excellent practice problems available. Problem sets 2 and 3, and their associated lectures, collectively covered approximately chapters 4, 9.1, 9.2, and chapter 13.

If you want additional practice problems, consider the following ones:R-9.1, R-9.7, R-9.8, R-9.9, R-9.15, C-9.6, C-9.7, C-9.11, C-9.14, R-13.1, R-13.2, R-13.3, R-13.4, R-13.5, R-13.7, R-13.8, R-13.9, R-13.11, R-13.12, R-13.13, R-13.14, R-13.15, R-13.16, R-13.31, R-13.32, C-13.2, C-13.7, C-13.8, C-13.10, C-13.23

For Minimum Spanning Trees , R-13.17, R-13.19, R-13.33, C-13.17 and C-13.27 are worth doing.

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