
Assignment 6

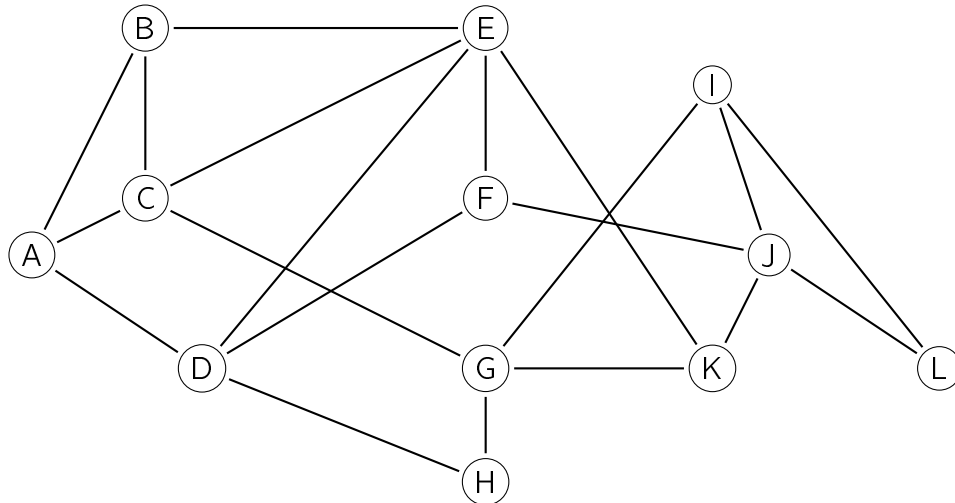
Due Date: This assignment is due in your workshop in week 8. You are also required submit it electronically through Blackboard.

1. Give the representative between 0 and 9 of the equivalence class in \mathbb{Z}_{10} that the number $-3 + 2 \times 10 + 3 \times 10^2 + 20 - 1 \times 5$ is a member of.

2. Solve the equation $3x \equiv 5 \pmod{22}$ by using the extended Euclidean algorithm.

3. Solve the equation $65x \equiv 5 \pmod{279}$ by using the extended Euclidean algorithm.

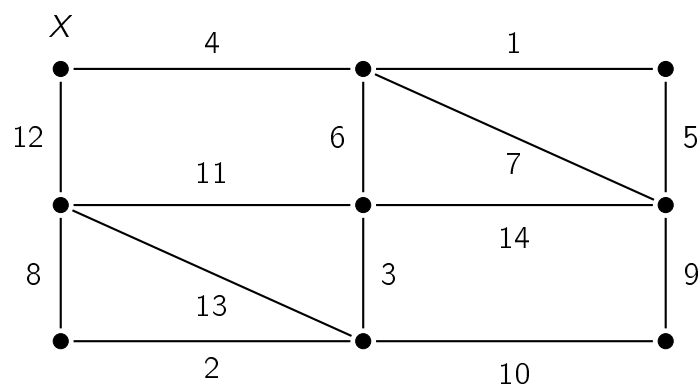
4. Consider the following graph:



Ordering the vertices alphabetically:

- Use a Depth-first search to find a spanning tree.
- Use a Breadth-first search to find a spanning tree.

5. Use Prim's algorithm starting at vertex X to find a minimum spanning tree in the following graph .



END OF PAPER