Network Methods Checklist

Achievement

I can:

- [ ] Identify key nodes/vertices and edges/connections in a network
- [ ] Calculate the distance or cost between nodes in a network
- [ ] Determine the shortest path between two nodes using methods like Dijkstra's algorithm
- [ ] Identify whether a network is traversable (able to visit all nodes without repeating edges)
- [ ] Construct a minimum spanning tree to connect all nodes at minimum total cost

Merit

I can

- [ ] Analyze a network to identify optimal paths or connections based on criteria like cost, distance, or traversability
- [ ] Explain my step-by-step reasoning for selecting network methods to solve a problem
- [ ] Relate my network analysis and solutions back to the real-world context of the problem
- [ ] Make connections between different network concepts (e.g. shortest path, traversability, minimum spanning tree) to devise a comprehensive solution

Excellence

I can:

- [ ] Devise an effective strategy for investigating and modeling a network problem
- [ ] Identify the most relevant network concepts and methods required to solve a complex, multi-faceted problem
- [ ] Develop a logical chain of reasoning, using appropriate algorithms and mathematical principles, to optimize network solutions
- [ ] Generalize insights from my network analysis to make broader conclusions or recommendations
- [ ] Communicate my network solutions using precise mathematical language and representations