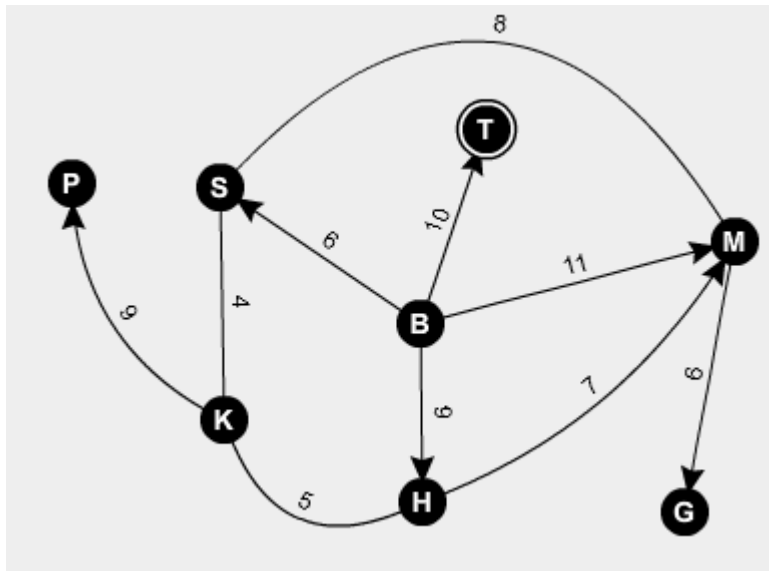


Assignment
Using Graph Theory to Model Systems

The graph shown represents the power transmission lines that supply electricity to the cities serviced by a small utilities company. The weights on the edges represent the maximum electrical flow that each power transmission line can handle.



Because of your expertise in graph theory, the utility company has hired you as a consultant to provide them an analysis of the flow capacity of their current system as well as make a recommendation for increasing the flow capacity by upgrading an existing power transmission line.

On a separate sheet of paper, complete the following tasks.

1. Provide evidence of the work/process that you engaged in determining the maximum flow for the graph.
2. Provide a “final report” explaining which existing power transmission line should be upgraded and why.