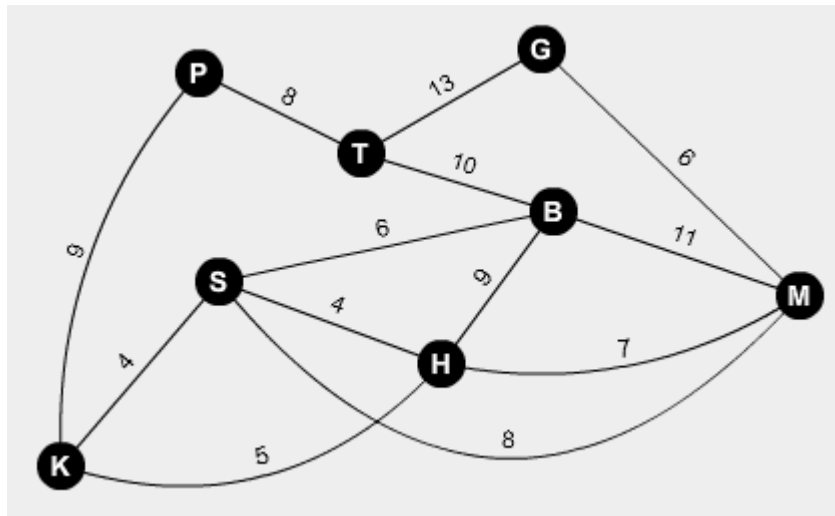


Assignment

Using Graph Theory to Model Systems

The graph shown represents the buildings and the costs for installing wired network connectivity between buildings on the campus of a small college. And because of the campus' geography, it is either not possible or not feasible to consider all possible connections.



Because of your expertise in graph theory, the college has hired you as a consultant to provide them some different options of which wired connections to install. You decide to present two options:

- **option #1:** bare-minimum connectivity at a minimal cost
- **option #2:** enhanced connectivity with a low cost

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

1. Provide evidence of the work/process that you engage in to generate the subgraphs for each option.
2. Provide a “final report” that contains the appropriate subgraph and cost for each option.