CS340 Analysis of Algorithms
Fall 2025

Lab:	**4**	**Professor:**	**Elizabeth Dinella**
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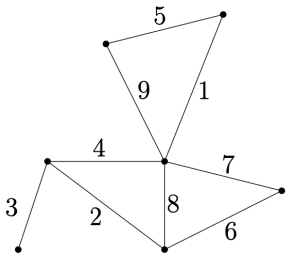
Title:	**Dijkstra's**	**URL:**	**https://bmc-cs-340.github.io**

Answer the following questions for the graph on the right. Assume that s, the source/start vertex is the bottom left vertex. The numbers on the edges are the edge weights.



1. Find a shortest path from s to every vertex. For each vertex, list the path by naming all intermediate vertices and state the total length of the path. You should name/label the vertices for record keeping. Try to do this without Dijstra's.
2. Trace Dijkstra's algorithm on the graph. For each interation, list
   (a) contents of the priority queue
   (b) contents of the arrays `d` and `pred`, i.e., `d[v]` and `pred[v]` for each `v`
   (c) the shortest path computed
3. Find a graph with negative weights on which Dijstra's fails.