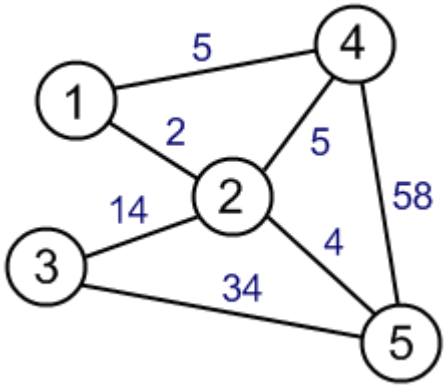
CSc 4220/6220 – Fall 2018
Assignment #5 – Routing Algorithms
Deadline: Friday, November 30th 11:59 pm
No late deadline



Consider the graph given above, with edge weights shown. Write a program to run Bellman-Ford to compute shortest weight paths. Your program should ask the user for the source vertex, *s*, to consider and the output should display that node's table with the corresponding distance vectors for each iteration of the algorithm. The final output would be the shortest paths from *s* to all other nodes, as well as the corresponding path weights. **Make sure to document your code.**

Grad students:

Extend the above program to account for dynamic changes. Once your program comes to a stable state, randomly update one of the edges to decrease by half of its current value. Determine how many iterations it takes to reach a steady state and display the shortest paths from *s* to all other nodes, with their path weights. Then randomly have one edge double in its weight and repeat the process.