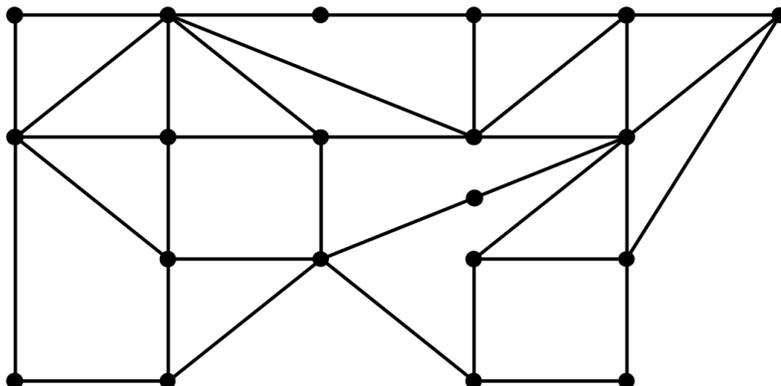


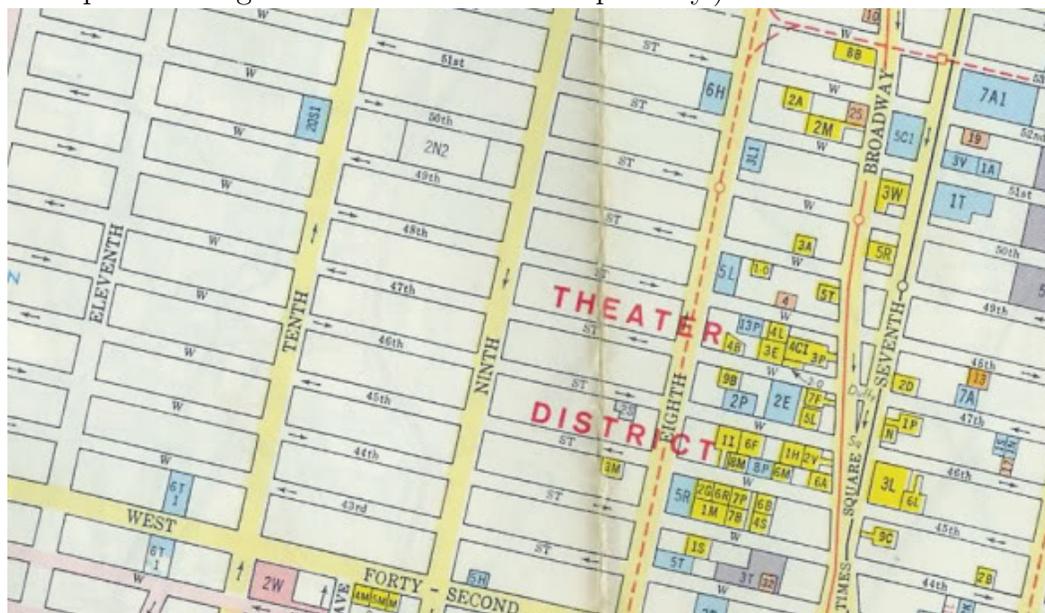
29 Aug 2014

Math 181

1. Does the graph below have an Euler circuit? Why or why not?
2. Solve the Chinese Postman Problem by giving a circuit that uses every edge, while retracing as few edges as possible.



3. Do exercise 27 on page 27 of the book.
4. A New York delivery truck must deliver packages to all buildings inside the rectangle formed by Seventh and Tenth Avenue and by 45th and 50th Street. What route can the driver take to do this in an efficient way? You may assume that deliveries can be made on both sides of *one-way* streets by traveling down the block only once. (Two-way streets require visiting each side of the street separately.)



**Due Wednesday:** Answer the following discussion/critical thinking questions.

1. Complete Problem 4 above.
2. In problem 4. Some streets are longer than others, and retracing them will take more time. How might we change our graph model (for which we consider all edges equally) to better represent the different “costs” associated with traversing certain streets?
3. We have discussed Euler circuits and eulerization in the context of checking parking meters, the Chinese Postman Problem, and a driver delivering packages. List as many scenarios as you can think of cases where finding an Euler circuit would be useful.  
**Be creative!** Ideally, I want each student to come up with an example that nobody else lists.
4. Read Spotlight 3.2 on Page 92 in the book. (You must have the 9th Edition of the book. If you do not have this edition, let me know.) The Spotlight contains a few terms that we have not yet discussed. When reading mathematics, one **crucial** skill is being able to identify definitions and ideas that you are not familiar with. List any terms/definitions that you do not know how to define. You do **not** need to find their definitions—just identify them.