EECS 560: Homework 2
Due: Monday, September 23, 2019 (At 8am)

Note: You must show all of your work to obtain credit for a problem. Partial credit will be given when meaningful answers were given.

Questions:

1. (20 points; 5 points for each part) Do Exercise 5.1 on p. 237 in Weiss.

2. (20 points; 5 points for each part) Do Exercise 5.2 on p. 237 in Weiss. Use the thresholds for rehashing specified in lecture.

3. (10 points) Propose a method for hashing 1000 records of the following format:

<table>
<thead>
<tr>
<th>Name</th>
<th>SSN</th>
<th>Town</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fred Smith</td>
<td>382-71-4095</td>
<td>Overland Park</td>
</tr>
</tbody>
</table>

4. (15 points) You are going on a one-way indirect flight trip that includes an unknown very large number of transfers.

Here are some rules for your trip:

- You are not stopping twice in the same airport.
- You have one paper ticket for each part of your trip.
- Each ticket contains a src airport and a dst airport.
- All the tickets have been randomly sorted. (This corresponds to dropping the whole pile of tickets on the floor.)
- You forgot the original departure airport (very first src) and your destination (last dst).

Design an efficient algorithm (based on the use of a hash table) to reconstruct your flight path so that you can go on your trip.