Assignment 11

R-2.19 Draw the 11-item hash table resulting from hashing the keys 12, 44, 13, 88, 23, 94, 11, 39, 20, 16, and 5, using the hash function $h(i) = (2i + 5)$ mod 11 and assuming collisions are handled by chaining.

R-2.20 What is the result of the previous exercise, assuming collisions are handled by linear probing?

R-2.21 Show the result of Exercise R-2.19, assuming collisions are handled by quadratic probing, up to the point where the method fails because no empty slot is found.

R-2.22 What is the result of Exercise R-2.19 assuming collisions are handled by double hashing using a secondary hash function $h'(k) = 7 - (k \bmod 7)$?

Give the pseudo-code description for performing a removal from a hash table that uses linear probing to resolve collisions. Why is it necessary to use a special marker to represent deleted elements?