Testing Strategy for Part 2

I started out with a hashmap of size 20. I first tested insert and the replacement part of insert by inserting two values into the same key and then searching to find the value of the key, making sure that it was the second value inserted. I then made sure that removes and searches properly returned false when the value was not in the hashmap and did not affect the values within it. Then, because this is a hash bucket I inserted many keys that all mapped to the same value to ensure they simply got added on to the linked list and still left other slots open and that load() properly accounted for this.

Using the hashmap created from this sequence of searches and removes, I tested the clear, is_empty, print, load, and size functions. I then insert many values into the hashmap and tried a sequence of inserts, removes, and searches to again ensure its validity.

Finally, I created a hashmap of size 100 and went through the same sequence to see that values are properly hashed to new locations but are still findable/removable/replaceable and that all the methods to view the hashmap's properties still worked properly.

I chose hashmaps with sizes multiples of 10 and a poorly chosen hash function for maps of this size so it was easier to determine correct behavior because it was obvious where each key would be added.