

Homework #4 (hash tables)

1. Suppose we have a hash table with 11 locations that stores integers. Our hash function is  $\text{hash}(\text{int } i) = i \% 11$  and we use linear probing to resolve collisions. Show what the hash table looks like after doing the following insertions: 26, 42, 5, 44, 92, 59, 40, 36, 12, 60, 80. (These are all keys; the values do not matter here).
2. Repeat the previous exercise, but assume our hash table uses separate chaining instead. Show the table after all the numbers are inserted.
3. On repl.it, solve the problem “HW4 – Linear Probing HT.” Note that this will take a good amount of time, because you are filling in some functions to implement a linear-probing hash table. However, the code can be adapted from section 3.4 in the book (look for the linear probing section). Your code does not have to resize the hash table, though, so it’s even easier.