CSC 403 ICE 5

Complete the body of the put function for the public class SeparateChainingHashST<K, V>  class. See class handout.

// insert key‐value pair into the table

public void put(K key, V val) {

int loc = hash(key);

st[loc].put(key, val);

}

Complete the exercise below (this is directly from the week 5 slides).

A hash function has the following characteristics.

Keys 203, 426, and 561 hash to 5

Keys 987 and 316 hash to 7

Key 736 hashes to 2

Key 124 hashes to 0

Assume insertions are done in order 987, 203, 736, 316, 426, 561, 124

1. Indicate the position of the data if linear probing is used to resolve collisions.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 124 |  | 736 |  |  | 203 | 426 | 987 | 316 | 561 |  |

1. Which element(s) require the largest number of probes to locate it in the table?

561

1. Which element(s) can be accessed with a single probe?

203, 987, 736, 124