

Consistent Hashing Project

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Revised rubric

This assignment will be graded out of 100 points.

[10pts] Implementation of the user interface to insert, search, print, and quit.

[20pts] The search method is properly implemented, and takes $O(n)$ time (using a circular linked list).

[20pts] The print function prints all buckets and keys in the hash ring in the format given:

Consistent Hashing Index

$r = \langle \text{ring size} \rangle$

Bucket size = $\langle \text{bucket size} \rangle$

Buckets:

Bucket[$\langle \text{bucket index} \rangle$]: [$\langle \text{list of keys} \rangle$]

...

Bucket[$\langle \text{bucket index} \rangle$]: [$\langle \text{list of keys} \rangle$]

[50pts] The insert function is properly implemented according to the consistent hashing algorithm. This method only attempts to insert when the key is not already contained in the index. Buckets split when they are overflowed, and are placed in the ring according to the midpoint formulas. Splitting of buckets requires the correct keys from the overflowed bucket to be transferred to the new bucket.