Week 9 Assignment

Submit Assignment

Due Thursday by 11:59pm **Points** 10 **Submitting** a text entry box or a file upload

Hash Tables.

1. Computing a hash code can be expensive, especially for lengthy keys. In our hash table implementations, we compute the hash code when first inserting an item, and recompute each item's hash code each time we resize our table. Python's dict class makes an interesting trade-off (saving time by using more space). The hash code is computed when an item is inserted and stored as an extra field of the item so that it need not be recomputed. Modify MapBase to store the hash code and modify the HashMapBase resize method so that it does not recompute the hash code. You only need to modify the first two files but the other two are here so you can test your code. map_base.py hash_map_base.py probe_hash_map.py chain_hash_map.py.

CH 10 Code.zip

1. Some implementations of linear probing do not use a special marker, _AVAIL to represent deleted elements. Modify the _bucket_delitem method in ProbeHashMap to not use this marker. Instead rearrange the contents so that it appears that the removed entry was never inserted in the first place. (Do not do unnecessary work.)