Saturday, 5 September 15

Crux

Data Structures

Hashtables

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Maps

Map

```
class Map{
    // accessor methods
    int size();
    boolean isEmpty();
    Object get(Object key);
    // update methods
    void put(Object key, Object value);
    void remove(Object key) ;
    Object[] keys();
    Object[] values();
}
```

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Implement a Map using Linked List

1. Find
2. Add
3. Remove

Any Other Options?

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Hashtables

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Components of Hashtables

1. Bucket Array
2. Hash Function
   a. Hash Code
   b. Compression Function

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What if two keys map to same bucket?

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Collision Handling

1. Separate Chaining
2. Linear Probing
3. Double Hashing

Running time for separate chaining?

1. Find
2. Add
3. Remove

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Load Factor and Rehashing

Java implementation of Map

1. Hashmap
2. Hashtable
3. Lets look at an example for Hashmap

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Lets discuss few problems

1. Find intersection of two sorted arrays. What about unsorted arrays?

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Your Turn

1. Remove Duplicates from an array
2. Find pairs of elements in an array which sum to zero

Thank You !! ☺

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