KEY POINTS

Map - Stores a key-value pair as an entry.

- There are no multiple entries.
- put, get, remove all have worst case $O(n)$.
- The unsorted doubly linked list approach is only good for small maps.

NAME/DATE/SUBJECT

Maps - ADT

NOTES

A map ADT is a searchable collection of values:

- It stores a (key, value) pair, with no multiple keys.
- Return null if an element does not exist.
- There are several key operations:
  - get(k), put(k), remove(k), size(), isEmpty()

put(k): return null if the key is free. Otherwise return the OLD value.

remove(k): return removed value.

- entrySet()
- keySet()
- values()

returns an iterable collection of the entries

returns an it. collection of keys

returns an iterator of the values.

We can store all of this in a doubly linked list; it is most likely going to be unordered.

put() - Runs in $O(n)$ time (worst case) as we must traverse the entire list.

get() + remove() - Also have W.C. $O(n)$.

⇒ This is only good for small lists!

SUMMARY