

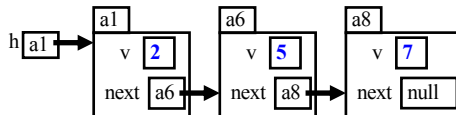
A3 is due after the break, but start on it NOW

Read HyperText entry on Study/work habits

When given new tasks to get done,
Procrastinate right from day one.
You think that's not fine?
It gives you more time
To catch up at last as you're done.

Assignment A3: Linked Lists

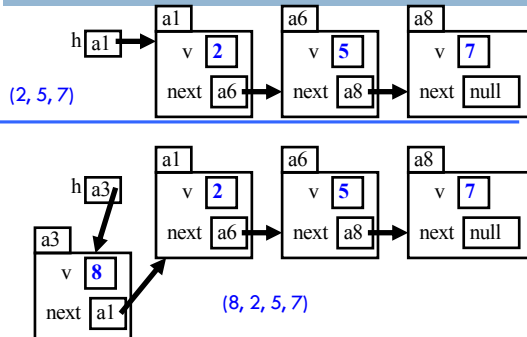
Idea: maintain a list (2, 5, 7) like this:



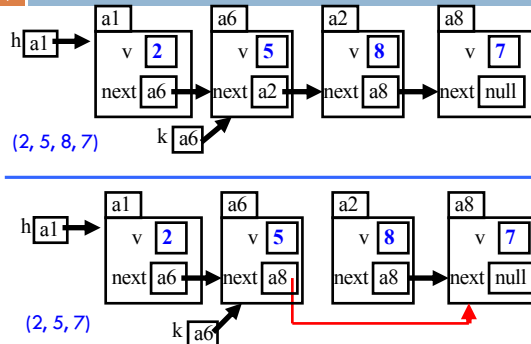
This is a singly linked list

To save space, we write names like a6 instead of N@35abcd00

How to insert a node at the beginning



How to remove successor of a node in the middle



Assignment A3: Generics

```
public class LinkedList {
    void add(Object elem) {...}
    Object get(int index) {...}
}
public class LinkedList<E> {
    void add(E elem) {...}
    E get(int index) {...}
}
ns = new LinkedList<Integer>(); ss = new LinkedList<String>();
ns.add("Hello"); // error ss.add("Hello");
ns.add(5); ss.add(5); // error
String s = ns.get(0); // error String s = ss.get(0);
int n = ns.get(0); int n = ss.get(0); // error
```

Values of linked list are of class Object

You can specify what type of values

Assignment A3: Inner class

```
public class DList<E> {
    field private Node first;
    ...
    method public E first() { return first.val; }
    ...
    class private class Node {
        private Node prev;
        private E val;
    }
}
```

Outer class can and should use fields of class Node, even though they are private.