CS 180 - Lecture 12

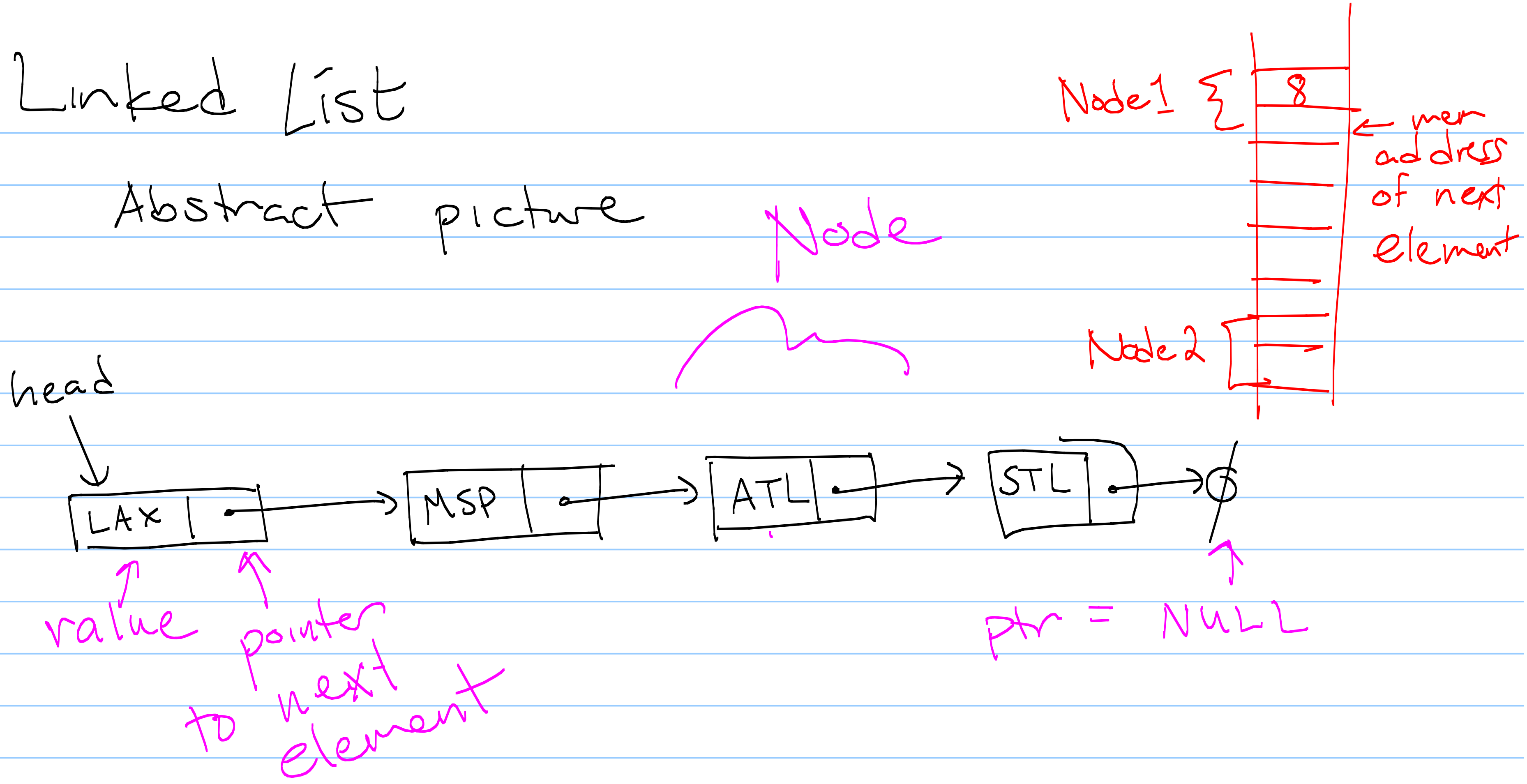
Note Title 9/25/2009

Announcements

- tests back next week
- Program 2 - due in 2 weeks

Linked List

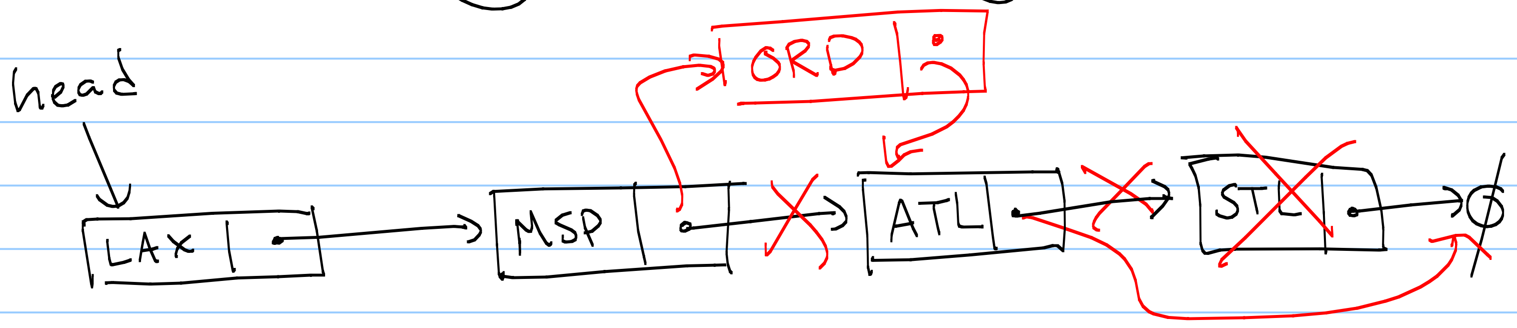
Abstract picture



Linked list ADT

- called a singly linked list
- ★ always need a pointer to the head of the list
- last entry points to a null pointer

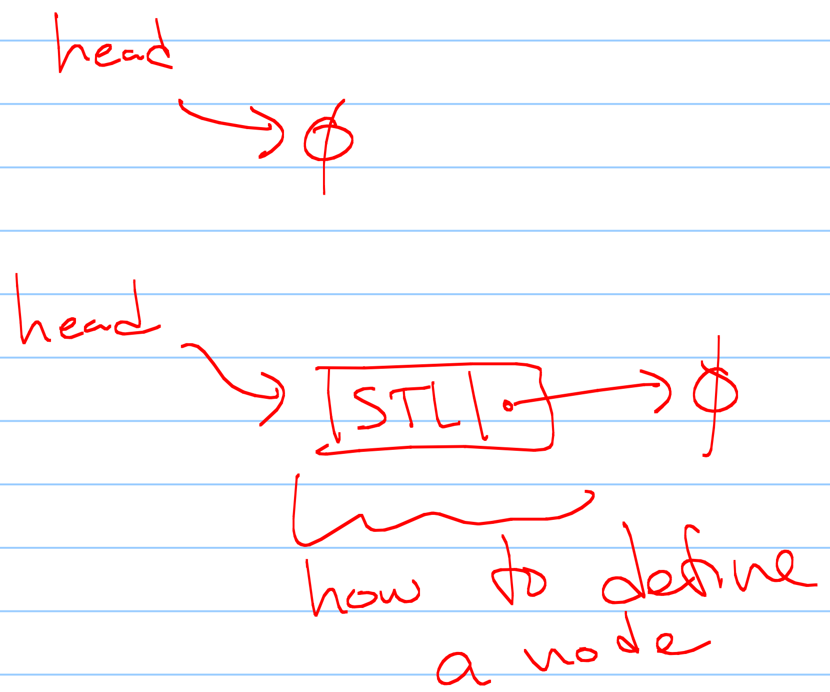
Inserting + Deleting



Insert GRD to be 3rd element in list
(fast compared to array)

Delete STL

How to implement?



The node structure

```
struct  Node {
    Object  element;            // value of this node
    Node *  next;               // ptr to next node
NodePtr
    // constructor
    Node (const  Object & e = Object(), Node* n=NULL):
          element (e),  next(n)  {}

};
```

Typedefs -

short cuts for things you will use a lot

```
type def Node* NodePtr ;
```

Now we can use NodePtr in our declarations

Why a struct & not a class?

- Nodes are simple
  don't want public/private data
  or a lot of methods