Andrew Plum

Cs 121

3/21/22

Week 10 Notes

* Quick sort
  + Divide and conquer
  + How to
    - Choose a pivot
      * Can be random or directly in the middle
  + Do quick sort reclusively to do the sort efficiently in terms of memory
* Quick sort vs Merge sort
  + Quick sort
    - Quick sort is quicker with less cores
  + Merge sort
    - Can be quick because you only have to go through each small sorted list once rather than a large list multiple times
    - Merge sort is quicker with more cores
    - Memory usage I think is more efficient
* Sorting
  + Anything can be sorted as long as we can come up with a definition for less than and greater than
* Binary trees
  + Can be used to make a mathematical expression tree
  + Prefix notation
    - + \* 7 6 / + 8 9 10
    - Can be put on stack and perfectly perform the calculation

Class node{

Public

Node\* left;

Node\* right;

entrytype data;

};

Void node::print(){

Cout << data << endl;

If(left != null){

Left->print();

}

If(right != null){

right->print();

}

}