CS163

Last Lecture

Practice!
Final Exam

+ June 8

4th

NH

00

10:15-12:05

30:21-31:01

New Rec

220

5:30-7:20

30:20-7:20

AsRC

Tuesday
Heaps

"implemented as a weaker Binary Tree than a BST"

Priority Queue

More important

Less important

No relationship
Depth First

Graphs

Breadth First

A -> B -> C -> f
A -> D -> E -> C
S

Vertices

1 2 3

what we've visited are in:

A B C D E F G

A B C D E F G

A

B

C

D

E

F

G

weighted graph

A -> B -> D -> E -> G -> F

A -> B -> D -> G

Depth First

Breadth First
Count # nodes in a BST

Private:

int count_all (node * root)
{
    if (!root)
        return 0;

    return 1 + count_all(root->left) +
           count_all(root->right);
}

Public:

int count_all()
{
    return count_all(root);
}
Display the contents of a 2-3 tree

```
void displayAll (node * root)
{
    if (root)
    {
        displayAll (root->left);
        if (root->data1)
        {
            output (root->data1);
        }
        if (root->data2)
        {
            output (root->data2);
        }
        displayAll (root->right);
    }
}
```
20 35 5 12 30 40 50 32 10 3

Easy to Remove:
3 or 5
32 or 30
40 or 50
Add 33, 34

Add 41, 34

41 60
Red Black

20 35 5 12 30 40 50 32 10 3

I - Internal
C - Child