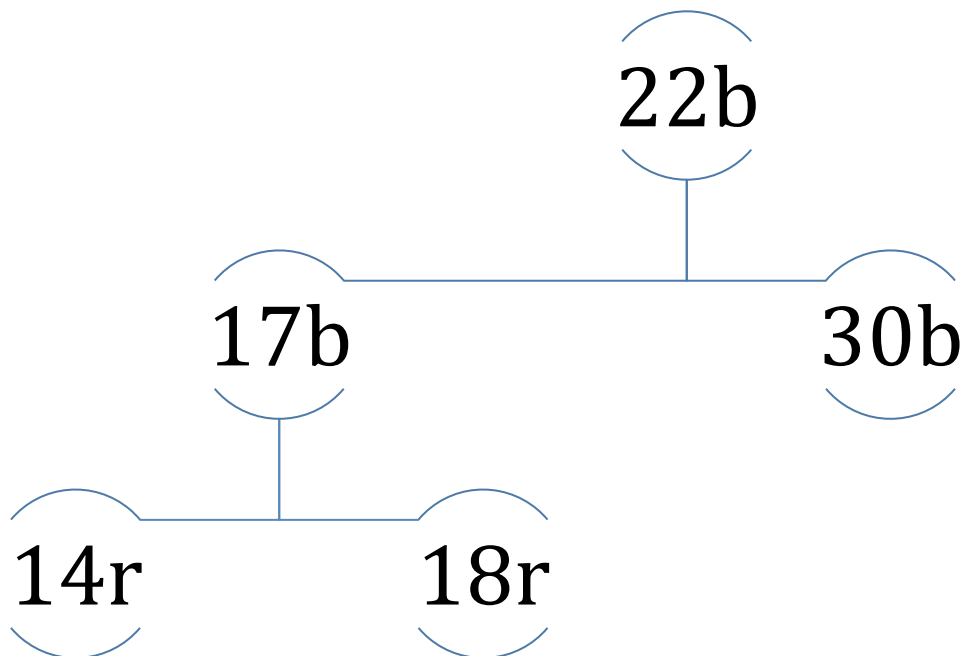CS2134 Homework 9 Spring 2016
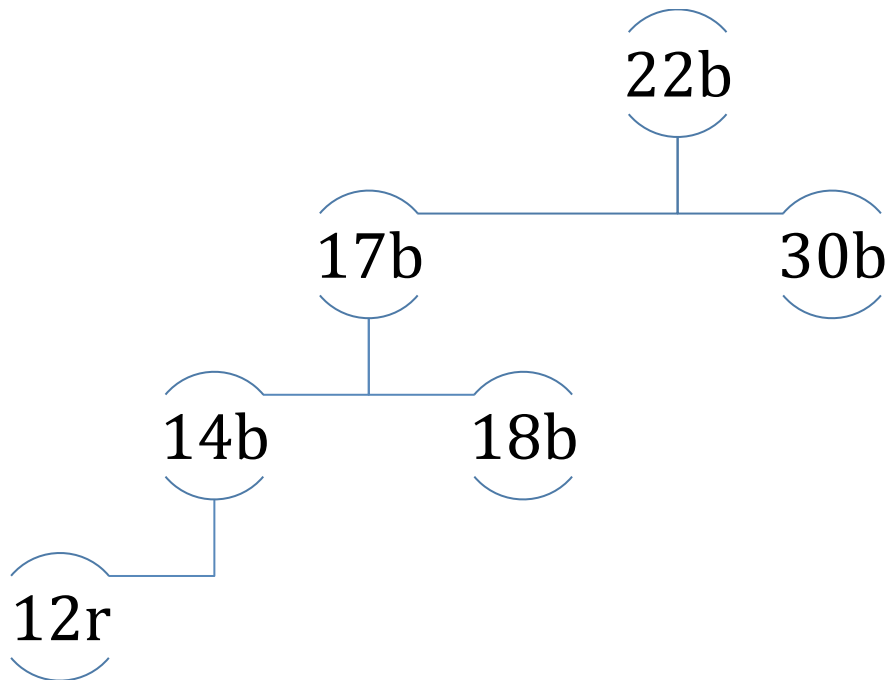
Today? 2016

Written Part:
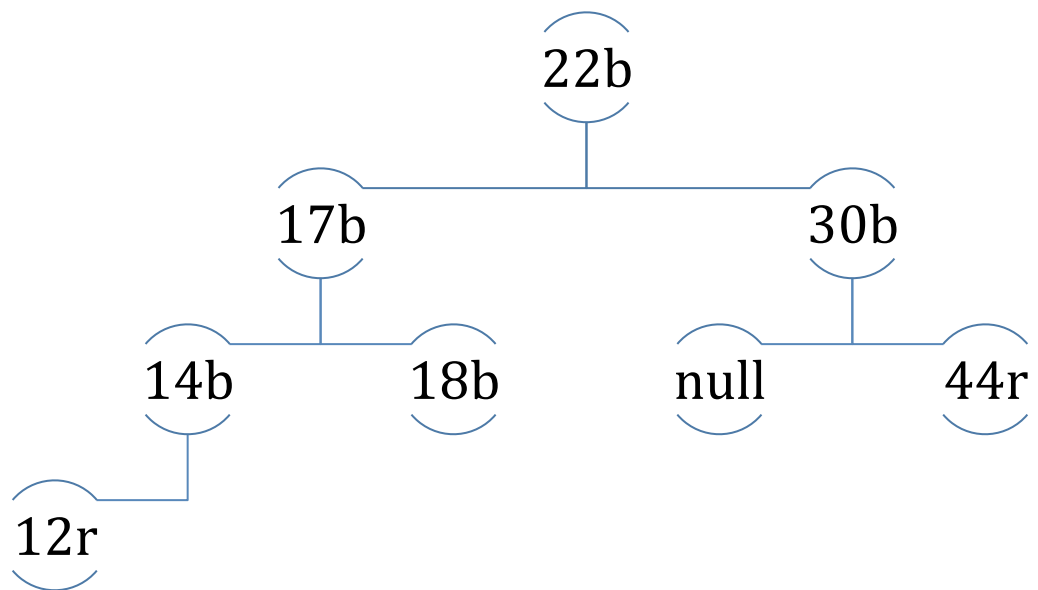
_____

1) O(nlog(n)) where n is the amount of lines in the data file. It runs the find method for each line of the file, aka it performs log(n) n times
2) Initial

22b

17b   30b

14r   18r

After inserting 12, violation 1 means recolor

22b
├── 17b
│   ├── 14b
│   │   └── 12r
│   └── 18b
└── 30b

insert 44 with no problem

22b
├── 17b
│   ├── 14b
│   │   └── 12r
│   └── 18b
└── 30b
    ├── null
    └── 44r

insert 50 and come up with a case 3 and rotate

22b

17b   44b

14b   18b   30r   50r

12r
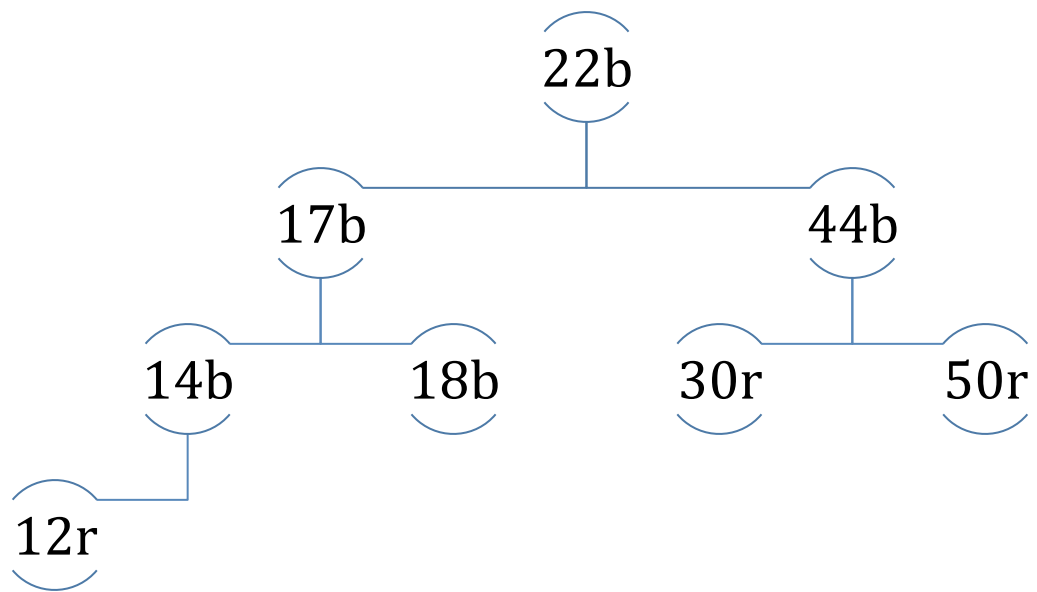
3) do not turn in
4) Node* K1 = K2->right;
   K2->right = K2->left;
   K1->left = K2->right->right;
   K2->right->right = K1;
5) It shouldn't take more than 4 pointer changes to complete a rotation.
   That would include switching the initial pointer to one of the children, and then changing the right right to be the right and the original to be the left.
6) That could be a problem because if you mod a number that's multiplied by 4 by any of those numbers, the remainder will be 0.

	4731	6173		
	4731			
	4731, 26	3327		

	4731	26	3327	1323		4340		4199		9679

B)

		4371		1323,6173	4199,4344,9679
		4371		1323	4199,4344,9679

		4371			1323,6173	4199,4344,9679,3324
	4371		1323,6173	4199,4344,9679			21	