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

After inserting 12, violation 1 means recolor

insert 44 with no problem

insert 50 and come up with a case 3 and rotate

1. do not turn in
2. Node\* K1 = K2->right;

K2->right = K2->left;

K1->left = K2->right->right;

K2->right->right = K1;

1. 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.

1. 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 |  |