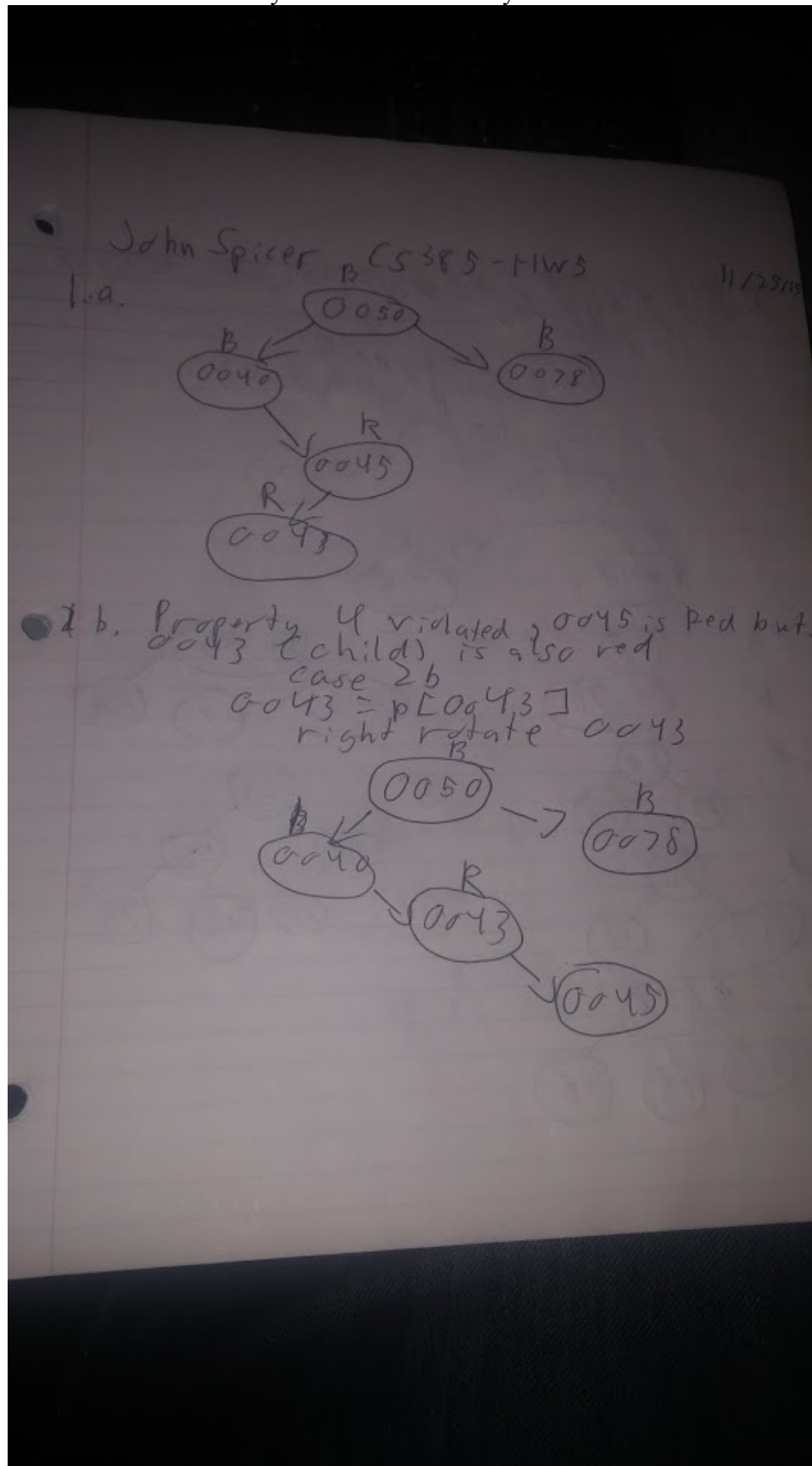
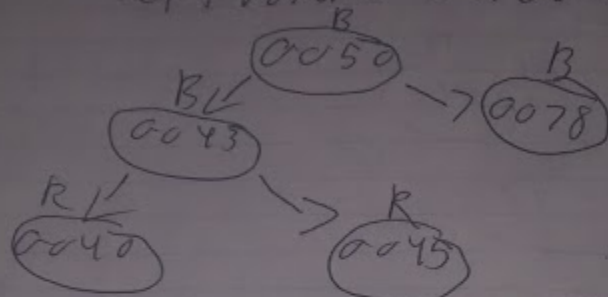


I pledge my honor that I have abided by the Stevens honor system.



c. Property (violated), 0045 is red & child of 0043 (red)
Case 3b

$0043 = p(0043)$
left rotate on 0043



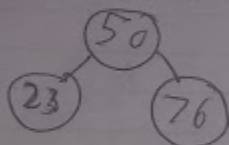
2. a.

50

b.

50 76

c.



d.



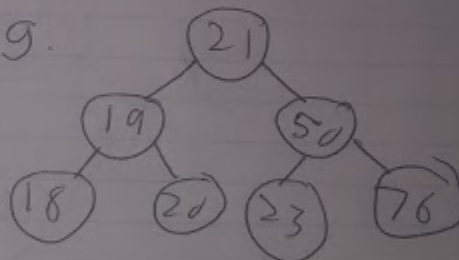
e.



f.



g.



```

3. LCM(A[1..n]):
   int value = lcm(A[0], A[1]);
   for (int i = 2; i < n; ++i)
       value = lcm(value, A[i]);
   return value;

```

```

lcm(a, b)
return (a * b) / gcd(a, b);

```

4. a. $4x^4 + 5x^3 - 2x^2 - 4x + 7$
 $\times (4x^3 + 5x^2 - 2x - 4) + 7$
 $4x(4x^2 + 5x - 2) - 4 + 7$
 $\times (4x(4x + 5) - 2) - 4 + 7$

b. $p = [7, -4, -2, 5, 4]$

c.

x	p_i	n_i
2	13	3
	24	2
	44	1
	95	0

 $p(2) = 95$

d. ~~2~~ $2 \mid 4 \ 5 \ -2 \ -1 \ 7$

$\begin{array}{cccc} 8 & 26 & 48 & 88 \\ 4 & 13 & 24 & 44 & 95 \end{array}$

5. Left+Right+Binary Exponentiation($a, b(n)$):

```
prod ← a
for i ← 2-1 to 0 do
  prod ← prod * prod
  if  $b_i = 1$  then prod ← prod * a
  if  $b_i = 0$  then prod ← 1
return prod
```