

Laboratory practice No. 4: Binary Search Trees

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3) Practice for final project defense presentation

1. It is not possible because to achieve a logarithmic time it is necessary to have operable keys.
2. the first thing is the implementation of the binary search tree, after implemented, what I did was to make a method that runs through the tree "InOrder"
I did this recurrently with the right children and then with the left until reaching a null node.
and with the "PosOrder" the same thing was done but now it is the other way round.
3.

```
public void inOrderTW(Node x) {  
    if (x != null) {      C1  
        inOrderTW(x.Lson);    T(n/2(  
        System.out.println(x.key); C2  
        inOrderTW(x.Rson);    T(n/2)  
    }                        T(n) = O(n)  
}
```

4) Practice for midterms

1. Line 04 `int izq = 1 + altura(raiz.izq);`
Line 05 `int der = 1 + altura(raiz.der);`
2. 3
3. Line 03 return `false;`
Line 05 return `suma == a.data;`
Line 07 return `sumaElCamino(a.izq, suma - a.data)`
Line 08 `|| sumaElCamino(a.der, suma - a.data);`
4. c) $T(n) = 2 \cdot T(n/2) + C$
4.2. a) $O(n)$
4.3. d
4.4. a) Cambiar el orden de las lineas 03, 04 y 05 por 05, 04 y 03
5. a) `p.data == toInsert`
b) `toInsert > p.data`

