ADS- Lab

B-Tree

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→ Btree node.

```
class Node{
    int *keys;
    int t;
    Node **C;
    int n;
    bool leaf;
    Public:
    Node(int _t, bool _leaf);
    Void insertNonFull(int k);
    Void SplitChild(int i, Node* y);
    Void traverse();
    Node* findKey(int k);
    friend class BTree;
};

class BTree{
    Node *root;
    int t;
    Public:
    BTree(int _t){
        root = NULL;
        t = _t;
    }
    Void traverse(){
        if(root != NULL)
            root->traverse();
    }
    Void deletion(int k);
    Void insert(int k);
};
```

```
// inserting an element.
void BTree :: insert(int k) {
    if (root == NULL) {
        root = new Node (t, true);
        root -> keys[0] = k;
        root -> n = 1;
    } else {
        if (root -> n == 2 * t - 1) {
            Node *s = new Node (t, false);
            s -> C[0] = root;
            s -> splitChild (0, root);
            int i = 0;
            if (s -> keys[0] < k)
                i++;
            s -> C[i] -> insertNotFull(k)
            root = s;
        } else
            root -> insertNonFull (k);
    }
}
```