Lab 7 - Adithya Narasimhan 1BM18CS128

B-Tree insert

```
BTreeNode
    int * keys, t, n
    BTreeNode **C
    bool leaf

init (t1, leaf1)
    t = t1
    leaf = leaf1
    keys = new int[2t-1]
    C = new BTreeNode *[2t]
    n = 0

Insert(k)
  if !root
    root = new BTreeNode(t, true)
    root->keys[0] = k
    root->n = 1
  else
    if root->n = 2t-1
      s = new node(), false)
      s -> C[0] = root
      s -> split children(0, root)
      i = 0
        if s->keys[0] < k
            i++
        s -> C[i] -> insertNonFull(k)
        root = s
    else
        root = insertNonFull(k)
```

```
insertNonFull(k)
    i = n-1
    if leaf
        while i >= 0 & keys[i] > k
            keys[i+1] = keys[i]
            i--
        keys[i+1] = k
        n = n+1
    else
        while i >= 0 & keys[i] > k
            i--
        if C(i+1)->n = 2t-1
            splitchild(i+1, C[i+1])
            if keys[i+1] < k
                i++
        C[i+1] -> insertNonFull(k)
```