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ADS Lab-6 Write up (B-trees)

Pseudo code:

```
class node { };
class btree { };
void btree :: insertion (int item)
{
    if (root == NULL)
    {
        root = new node (m, true);
        root -> data[0] = item;
        root -> n = 1;
    }
    else
    {
        if (root -> n == 2*t - 1)
        {
            node *s = new node (m, false);
            s -> child[0] = root;
            s -> splitchild (0, root);
            int i = 0;
            if (s -> data[0] < item)
                i++;
            s -> child[i] -> insertionnonfull(item);
            root = s;
        }
        else
            root -> insertionnonfull (item);
    }
}
```

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```
void node:: insertionnonfull (int item)
{
    int i = n-1;
    if (leaf == true)
    {
        while (i>=0 && data[i] > item)
        {
            data[i+1] = data[i];
            i--;
        }
        data[i+1] = item;
        n = n+1;
    }
    else
    {
        while (i>=0 && data[i] > item)
            i--;
        if (child[i+1] -> n == 2*m-1)
        {
            splitchild (i+1, child[i+1]);
            if (data[i+1] < item)
                i++;
        }
        child[i+1] -> insertionnonfull (item);
    }
}
```


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