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1BM18CS136 ADS Lab-6

Q) B-Tree Insertion.

```
def BTreeInsertion(T, k):
    root = self.root
    if (len(root.keys) == (2*self.t)-1:
        temp = BTreeNode()
        self.root = temp
        temp.child.insert(0, root)
        self.split_child(temp, 0)
        self.insert_non_full(temp, k)
    else
        self.insert_non_full(root, k)

def insert_non_full(self, x, k):
    i = len(x.keys) - 1
    if(x.leaf):
        x.keys[i+1] = x.keys[i]
        i-=1
        x.keys[i+1]=k
        while (i>=0) and k[0] < x.keys[i][0]
            x.key[i+1] = x.keys[i]
            i-=1
        x.keys[i+1]=k
    else:
        while i>=0 and k[0] < x.keys[i][0]
            i-=1
        i+=1
        if(len(x.child.keys) == (2*self.t)-1:
```

```
self.split_child(x, i)
if (k[0]) > x.keys[i][0]:
    i += 1
self.insert_non_full(x.child[i], k)
```