

B Trees

Krishna prasad V
18H18CS047
SA

pseudo code:

```
void insert (int k, int t)
{
    if (root == NULL)
    {
        root = new Node (t, true)
        root->keys[0] = k
        root->n = 1
    }
```

else

```
{
    if root->n == 2 + 1
        Node s = new Node (t, false)
        s->C[0] = root
        s->splitChild (0, root)
        int i = 0
        if (s->key[i] < k)
            i++
        s->C[i] -> insert not full (k)
        root = s
    else
        root -> insert not full (k)
}
```

```
}
void insertNotFull (int k)
```

```
{
    int i = n-1
    if leaf == true
        while i > 0 && keys[i] > k
            keys[i+1] = keys[i]
            i--
        keys[i+1] = k
}
```

$n = n+1$

do

while $i > 0$ & $\text{key}[i] > k$

$i--$

if $(\text{count} \rightarrow n = 2 * t - 1)$

~~split~~ $\text{shift} (i+1, \text{count})$

if $(\text{key}[i+1] == k)$

$i++$

$\text{count}[i+1] \rightarrow \text{not full}(k)$