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class tree

```
{ tree * root;  
  int t;  
  tree()  
  { root = null;  
    t = 2;  
  }  
}
```

void insert (int k)

```
{ if (!root)  
  { root = new node();  
    root->key[0] = k;  
    root->n = 1;  
  }  
  else if (root->n == 2 * t - 1)  
  { Node * s = new node();  
    s->s[0] -> root;  
    s->split (0, root);  
    int i = 0;  
    if (s->key[0] < k) i++;  
    s->c[i] -> insert into node (k);  
    root = s;  
  }  
  else  
    root->insert into node (k);  
}
```

void remove (int k)

```
{ if (!root) return;  
  root -> remove (k);  
  if (root->n == 0)  
  { tree * temp = root;  
    if (root->left) root = null;  
    else root -> root->c[0];  
    delete temp;  
  }  
  return;  
}
```

void insert into node (int k)

```
{ int i = n - 1;  
  if (leaf) {  
    while (i > 0 & (key[i] > k))  
    { key[i+1] = key[i];  
      i--;  
    }  
    key[i+1] = k;  
    n++;  
  }  
  else  
    while (i > 0 & (key[i] > k)) i--;  
  if (c[i+1] -> n == 2 * t - 1)  
    split (i+1, c[i+1]);  
  if (key[i+1] < k) i++;  
  c[i+1] -> insert into node (k);  
}
```

(Signature)