

B-Tree-Delete-Key(x, k)

if not leaf[x] then

y \leftarrow Preceding-Child(x)

z \leftarrow Successor-Child(x)

if $n[y] > t-1$ then

k' \leftarrow Find-Predecessor-Key(k, x)

Move-Key(k', y, x)

Move-Key(k, x, z)

B-Tree-Delete-Key(k, z)

else if $n[z] > t-1$ then

k' \leftarrow Find-Successor-Key(k, x)

Move-Key(k', z, x)

Move-Key(k, x, y)

B-Tree-Delete-Key(k, y)

else

Move-Key(k, x, y)

Merge-Nodes(y, z)

B-Tree-Delete-Key(k, y)

else (leaf node)

y \leftarrow Preceding-Child(x)

z \leftarrow Successor-Child(x)

w \leftarrow root(x)

v \leftarrow RootKey(x)

if $n[x] > t-1$ then Remove-Key(k, x)

else if $n[y] > t-1$ then

k' \leftarrow Find-Predecessor-Key(w, v)

Move-Key(k', y, w)

k' \leftarrow Find-Successor-Key(w, v)

Move-Key(k', w, x)

B-Tree-Delete-Key(k, x)

else if $n[w] > t-1$ then

k' \leftarrow Find-Successor-Key(w, v)

Move-Key(k', z, w)

k' \leftarrow Find-Predecessor-Key(w, v)

Move-Key(k' , w , x)

B-Tree-Delete-Key(k , x)

else

$s \leftarrow \text{Find-Sibling}(w)$

$w' \leftarrow \text{root}(w)$

if $n[w'] = t - 1$ then

Merge-Nodes(w' , w)

Merge-Nodes(w , s)

B-Tree-Delete-Key(k , x)

else

Move-Key(v , w , x)

B-Tree-Delete-Key(k , x)