

## TREE-DELETE( $z$ )

```
if left[z]=nil or right[z]=nil
  then  $y \leftarrow z$ 
  else  $y \leftarrow \text{TREE-SUCCESSOR}(z)$ 
if left[y]  $\neq$  nil
  then  $x \leftarrow \text{left}[y]$ 
  else  $x \leftarrow \text{right}[y]$ 
if  $x \neq \text{nil}$ 
  then  $p[x] \leftarrow p[y]$ 
if  $p[y] = \text{nil}$ 
  then  $\text{root}[T] \leftarrow x$ 
  else if  $y = \text{left}[p[y]]$ 
    then  $\text{left}[p[y]] \leftarrow x$ 
    else  $\text{right}[p[y]] \leftarrow x$ 
if  $y \neq z$ 
  then  $\text{key}[z] \leftarrow \text{key}[y]$ 
return  $y$ 
```