

// RICERCA DEL PREDECESSORE

TREE predecessorNode(TREE  $t$ )

if  $t == \text{nil}$  then

  └ return  $t$

(1) if  $t.\text{left} \neq \text{nil}$  then

  | return  $\text{max}(t.\text{left})$

(2) else

  | TREE  $p \leftarrow t.\text{parent}$

  | while  $p \neq \text{nil}$  and  $t == p.\text{left}$  do

    | |  $t \leftarrow p$  // padre

    | |  $p \leftarrow p.\text{parent}$  // nonno

return  $p$

// RICERCA DEL SUCCESSORE

TREE successorNode(TREE  $t$ )

if  $t == \text{nil}$  then

  └ return  $t$

(3) if  $t.\text{right} \neq \text{nil}$  then

  | return  $\text{min}(t.\text{right})$

else

  | TREE  $p \leftarrow t.\text{parent}$

  | while  $p \neq \text{nil}$  and  $t == p.\text{right}$  do

    | |  $t \leftarrow p$

    | |  $p \leftarrow p.\text{parent}$

return  $p$