

CONSTRUCT-OPTIMAL-BST($root$)

$r = root[1, n]$

 print “ k ” _{r} “is the root”

 CONSTRUCT-OPT-SUBTREE($1, r - 1, r$, “left”, $root$)

 CONSTRUCT-OPT-SUBTREE($r + 1, n, r$, “right”, $root$)

CONSTRUCT-OPT-SUBTREE($i, j, r, dir, root$)

if $i \leq j$

$t = root[i, j]$

 print “ k ” _{t} “is” dir “child of k ” _{r}

 CONSTRUCT-OPT-SUBTREE($i, t - 1, t$, “left”, $root$)

 CONSTRUCT-OPT-SUBTREE($t + 1, j, t$, “right”, $root$)