MAX-HEAPIFY\((A, i, n)\)

\[
l = \text{LEFT}(i)
\]
\[
r = \text{RIGHT}(i)
\]
\[
\text{if } l \leq n \text{ and } A[l] > A[i]
\]
\[
largest = l
\]
\[
\text{else } largest = i
\]
\[
\text{if } r \leq n \text{ and } A[r] > A[largest]
\]
\[
largest = r
\]
\[
\text{if } largest \neq i
\]
\[
\text{exchange } A[i] \text{ with } A[largest]
\]
\[
\text{MAX-HEAPIFY}(A, largest, n)
\]