

ADT Hash Table
<p>Queue = {First = <first>, First.Next = <next>, Last, Value = <value>}</p>
<p>Invariant: First != null, Last != null</p>
<p>Construction Operations:</p> <p>*Create: ---> Queue</p> <p>Modifier Operations:</p> <p>*addElement: QueueXValue --> Queue</p> <p>*remove: QueueXValue --> Queue</p> <p>Analyzer operations:</p> <p>*isEmpty: Queue --> boolean</p> <p>*size: Queue --> Integer</p>

Create (Value)

"Creates an element of the Queue with the first and last element null"

{ pre: TRUE }

{ post: Heap = {First = <null>, Last = <null>}}

addElement(elementQueue)

"Inserts an element passed by parameter on the Queue structure putting it in the last position"

{pre: TRUE}

{ post: Queue.Last = <elementQueue>}

remove()

"Removes the first element from the Queue, putting the First.Next as First"

{pre: the Queue has at least one element}

{ post: First element is returned}

isEmpty(Queue):

"Informs is the Queue is empty"

{pre: TRUE}

{pre: Queue = {First:<first>,...}}

{ post: False if the Queue.First != null, True otherwise}

size(Queue)

"Returns an Integer that represents the number of element currently inserted in the Queue"

{pre: TRUE}

{pre: Queue = {Queue:<first>,...}}

{ post: n | n ∈ Z+}