

Assignment # 2

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Sbj : FM:SE

→ Algebraic Specification of Queue:-

Queue (Elem : [undefined \rightarrow Elem])
Sort Queue

→ This specification defines a sort called queue, the operations defined on queue are "is Empty()", which evaluates whether the queue is empty or not, "front of (queue)" returns the item at the front of queue, "deq(q)" returns the queue after removing front item, "enq(q)" returns the queue

after adding Element at
the end/back of queue,
"remove()" returns, retrieves
and remove the head.

→ isEmpty() → Bool

→ front of (q) → Elem

→ remove() → Elem

→ deq(q) → Queue

→ enq(q) → Queue

→ isEmpty(enq(q, n)) = false

→ front of (enq(q, n)) = if
isEmpty() then n
else front of (q)

→ remove(enq(q, n)) = if isEmpty()
then n else
front of (q)

→ deq(enq(q, n)) = if isEmpty()
then q else
enq(deq(q, n))