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Project 3 - Queue Final Test Document

Function and method prototypes

Constructors

Node();

Node<T>(T d);

Node<T>(T d, Node<T>\* n);

Queue();

~Queue();

Queue(const Queue<T>& q1);

Mutator methods

void Enq();

void Deq();

Node<T>\* Search();

Accessor methods

void Print()const;

void PrintCursor()const;

bool IsEmpty()const;

void moveLeft();

void moveRight();

void moveBegin();

void moveEnd();

Overloaded assignment operator

Queue<T>& operator=(const Queue& Qu);

Driver

int Menu();

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Operation** | **Expected Outcome** | **Trial 1 - Outcome (Date/Time)** | **Trial 2- Outcome (Date/Time)** | **Trial N - Outcome (Date/Time)** |
| Insert Item  Enq(+3+6+7) to empty list | [3 6 7] | [3 6 [7]]  (3/13/2019/3:30PM) |  |  |
| Search Item  (?6) [3 6 [7]] | 6 | Found: 6 (3/13/2019/3:30PM) |  |  |
| Remove Item  Deq(-) from [3 6 [7]] | [[6] 7] | Deleted Front: 3  [[6] 7]  (3/13/2019/3:30PM) | Deleted Front: 6  [7]  (3/13/2019/3:31PM) | Deleted Front: 7  Queue is Empty  []  (3/13/2019/3:32PM) |
| Insert Item  Enq(+21)to [[6] 7] | [6 7 [21]] | [6 7 [21]]  (3/13/2019/3:30PM) |  |  |
| Move cursor to the beginning from  [6 7 [21]] | [[6] 7 21] | [[6] 7 21]  (3/13/2019/3:30PM) | [[6] 7 21]  (3/13/2019/3:31PM) |  |
| Move cursor to the right  > from [[6] 7 21] | [6 [ 7] 21] | [6 [ 7] 21]  (3/13/2019/3:30PM) | [6 7 [21]]  (3/13/2019/3:31PM) | [[6] 7 21]  (3/13/2019/3:32PM) |
| Move cursor to the end  from [[6] 7 21] | [6 7 [21]] | [6 7 [21]]  (3/13/2019/3:30PM) | [6 7 [21]]  (3/13/2019/3:31PM) |  |
| Move cursor to the left  < from [6 7 [21]] | [6 [ 7] 21] | [6 [ 7] 21]  (3/13/2019/3:30PM) | [[6] 7 21]  (3/13/2019/3:31PM) | [6 7 [21]]  (3/13/2019/3:32PM) |
| Print item at the cursor  @ of [6 [7] 21] | 7 | 7  (3/13/2019/3:30PM) | 7  (3/13/2019/3:31PM) |  |
| Print List  P of [6 [7] 21] | [6 [7] 21]] | [6 [7] 21]]  (3/13/2019/3:30PM) | [6 [7] 21]]  (3/13/2019/3:31PM) |  |
| 1.Test Copy Constructor on [7 [21]] | [7 [21]] | Crashed  (3/13/2019/3:30PM) | [7 21]  Cursor is not working properly  (3/14/2019/10:43AM) | [7 [21]]  (3/16/2019/8:00AM) |
| 2. Test Assignment Operator on [[7] 21]  P = Q | [[7] 21] | [7 21]  Cursor is not working properly  (3/13/2019/3:30 PM) | [7 21]  Cursor is not working properly  (3/14/2019/10:43AM) | [7 [21]]  (3/16/2019/8:00AM) |
| **Operation** | **Expected Outcome** | **Trial 1 - Outcome (Date/Time)** | **Trial 2- Outcome (Date/Time)** | **Trial N - Outcome (Date/Time)** |
| 3. Test Destructor on  [[7] 21]  Q.~Queue() | Empty List [] | Empty List  []  (3/13/2019/3:32PM) | Empty List  []  (3/13/2019/3:34PM) |  |
| Move cursor to the left  on empty list  < | Empty List [] | Crashes on Empty List  (3/14/2014/10:44AM) | Empty List  Queue is empty  []  (3/16/2019/8:00AM) |  |
| Search Item (?5) on emplty list | Empty List [] | Not Found  Queue is empty  []  (3/16/2019/8:00AM) | Not Found  Queue is empty  []  (3/16/2019/8:01AM) |  |
| Move cursor to the beginning of empty list | Queue is Empty [] | Queue is Empty  [] (3/16/2019/8:02AM) | Queue is Empty  []  (3/16/2019/8:03AM) |  |
| Move cursor to the right of empty list  > | Queue is Empty [] | Crashes on Empty List  (3/14/2019/10:44AM) | Empty List  Queue is empty  []  (3/16/2019/8:05AM) | Empty List  Queue is empty  []  (3/16/2019/8:06AM) |
| Print item at the cursor on empty list  @ | Cursor points to NULL | Cursor points to NULL  (3/16/2019/8:07AM) | Cursor points to NULL  (3/16/2019/8:08AM) |  |
| Remove item Deq(-) from empty list | Queue is Empty [] | Queue is Empty  Queue is Empty  []  (3/16/2019/8:07AM) | Queue is Empty  Queue is Empty  []  (3/16/2019/8:08AM) |  |
| Print List of empty list  P | Queue is Empty [] | Queue is Empty  []  (3/16/2019/8:07AM) | Queue is Empty  []  (3/16/2019/8:08AM) |  |
| 1.Test Copy Constructor on empty list | Copy List is Empty  Original List is Empty [] | Copy List  Queue Empty  []  Original List Queue Empty  []  (3/16/2019/8:09AM) | Copy List  Queue Empty  []  Original List Queue Empty  []  (3/16/2019/8:10AM) |  |
| 2. Test Assignment Operator on empty list  P = Q | Copy List is Empty []  Original List is Empty [] | Copy List  Queue Empty  []  Original List Queue Empty  []  (3/16/2019/8:09AM) | Copy List  Queue Empty  []  Original List Queue Empty  []  (3/16/2019/8:10AM) |  |
| **Operation** | **Expected Outcome** | **Trial 1 - Outcome (Date/Time)** | **Trial 2- Outcome (Date/Time)** | **Trial N - Outcome (Date/Time)** |
| 3. Test Destructor on empty list  Q.~Queue() | Queue is empty [] | Queue is empty  []  (3/16/2019/8:09AM) | Queue is empty  []  (3/16/2019/8:09AM) |  |
| Insert Item  Enq(+4+7+8) to empty list | [4 7 [8]] | [4 7 [8]]  (3/16/2019/8:10AM) |  |  |
| 1.Test Copy Constructor  on [4 7 [8]] | [4 7 [8]] | [4 7 [8]]  (3/16/2019/8:10AM) | [4 7 [8]]  (3/16/2019/8:11AM) |  |
| Enq(+2+10) to [4 7 [8]] | [4 7 8 2 [10]] | [4 7 8 2 [10]]  3/16/2019/8:11AM) |  |  |
| 2. Test Assignment Operator on  [4 7 8 2 [10]]  P = Q | [4 7 8 2 [10]] | [4 7 8 2 [10]]  (3/16/2019/8:11AM) | [4 7 8 2 [10]]  (3/16/2019/8:12AM) |  |
| Remove item Deq(-)  from [4 7 8 2 [10]] | [[7] 8 2 10] | Deleted Front 4  [[7] 8 2 10] (3/16/2019/8:11AM) | Deleted Front 7  [[8] 2 10]  (3/16/2019/8:11AM) | Deleted Front 8  [[2] 10]  (3/16/2019/8:11AM) |
| Enq(+0) to [[2 10] | [2 10 [0]] | [2 10 [0]]  (3/16/2019/8:12AM) |  |  |
| Enq(+3+6) to [2 10 [0]] | [2 10 0 3 [6]] | [2 10 0 3 [6]]  (3/16/2019) |  |  |
| Move cursor to the right  [2 10 0 3 [6]]  > | [[2] 10 0 3 6] | [[2] 10 0 3 6]  (3/16/2019/8:12AM)) | [2 [10] 0 3 6]  (3/16/2019/8:12AM) | [2 10 [0] 3 6]  (3/16/2019/8:12AM) |
| Move cursor to the left  [2 [10] 0 3 6]  < | [[2] 10 0 3 6] | [2 10 0 3 [6]]  (3/16/2019/8:12AM) | [2 10 0 [3] 6]  (3/16/2019/8:12AM) | [2 [10] 0 3 6]  (3/16/2019/8:12AM) |
| Move cursor to the beginning of  [2 [10] 0 3 6] | [[2] 10 0 3 6] | [[2] 10 0 3 6]  (3/16/2019/8:12AM) | [[2] 10 0 3 6]  (3/16/2019/8:12AM) |  |
| Move cursor to the beginning of  [2 10 [0] 3 6] | [[2] 10 0 3 6] | [[2] 10 0 3 6]  (3/16/2019/8:13AM) | [[2] 10 0 3 6]  (3/16/2019/8:13AM) |  |
| Move cursor to the beginning of  [2 10 0 [3] 6] | [[2] 10 0 3 6] | [[2] 10 0 3 6]  (3/16/2019/8:13AM) | [[2] 10 0 3 6]  (3/16/2019/8:13AM) |  |
| Move cursor to the beginning of  [2 10 0 3 [6]] | [[2] 10 0 3 6] | [[2] 10 0 3 6]  (3/16/2019/8:13AM) | [[2] 10 0 3 6]  (3/16/2019/8:13AM) |  |
| **Operation** | **Expected Outcome** | **Trial 1 - Outcome (Date/Time)** | **Trial 2- Outcome (Date/Time)** | **Trial N - Outcome (Date/Time)** |
| Move cursor to the beginning of  [[2] 10 0 3 6] | [[2] 10 0 3 6] | [[2] 10 0 3 6]  (3/16/2019/8:13AM) | [[2] 10 0 3 6]  (3/16/2019/8:13AM) |  |
| Move cursor to the end of [2 [10] 0 3 6] | [2 10 0 3 [6]] | [2 10 0 3 [6]]  (3/16/2019/8:13AM) | [2 10 0 3 [6]]  (3/16/2019/8:13AM) |  |
| Move cursor to the end of [2 10 [0] 3 6] | [2 10 0 3 [6]] | [2 10 0 3 [6]]  (3/16/2019/8:13AM) | [2 10 0 3 [6]]  (3/16/2019/8:13AM) |  |
| Move cursor to the end of [2 10 0 [3] 6] | [2 10 0 3 [6]] | [2 10 0 3 [6]]  (3/16/2019/8:13AM) | [2 10 0 3 [6]]  (3/16/2019/8:13AM) |  |
| Move cursor to the end of [2 10 0 3 [6]] | [2 10 0 3 [6]] | [2 10 0 3 [6]]  (3/16/2019/8:13AM) | [2 10 0 3 [6]]  (3/16/2019/8:13AM) |  |
| Move cursor to the end of [[2] 10 0 3 6] | [2 10 0 3 [6]] | [2 10 0 3 [6]]  (3/16/2019/8:13AM) | [2 10 0 3 [6]]  (3/16/2019/8:13AM) |  |
| 3. Test Destructor on  [[2] 10 0 3 6]  Q.~Queue() | Queue is empty [] | Queue is empty  []  (3/16/2019/8:14AM) | Queue is empty  []  (3/16/2019/8:14AM) |  |
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