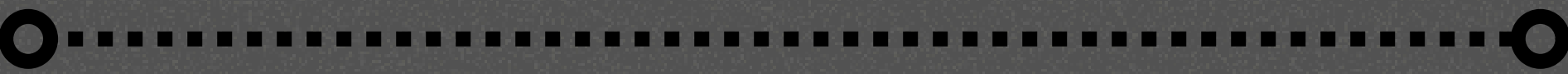


Hospital Emergency Queue Management System

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Problem Statement:

Design and implement a C++ program using a Doubly Linked List to manage patients in a hospital Emergency Room (ER).
The system should handle critical and normal patients, allowing addition, removal, and priority updates in real-time.

Proposed Solution:

- Implemented using Doubly Linked List for dynamic insertion and deletion.
- Supports four main operations:
 - 1.Add patient at beginning (critical)
 - 2.Add patient at end (normal)
 - 3.Add patient at specific position
 - 4.Remove patient from beginning (treated)

Graphical Representation After Each Step

insertAtEnd(101) → [101]
insertAtEnd(102) → [101] ⇌ [102]
insertAtBeginning(200) → [200] ⇌ [101] ⇌ [102]
insertAtPosition(150, 2) → [200] ⇌ [150] ⇌ [101] ⇌ [102]
deleteFromBeginning() → [150] ⇌ [101] ⇌ [102]
insertAtEnd(300) → [150] ⇌ [101] ⇌ [102] ⇌ [300]



Conclusion:

The Hospital Emergency Queue System efficiently manages ER patients using a doubly linked list.
It ensures quick updates for critical patients, smooth insertion and removal, and accurate tracking of patient priority in real-time.