Project on

Railway Reservation System

By using Data Structures

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Introduction

This system is basically concerned with the reservation of railway tickets to the passengers.

In this we are discussing that how the reservation is done with the feature of cancelling and waiting list.

In the project we are going to include entities like

Reservation

Cancellation

Display reserved and waiting list passengers.

OBJECTIVE OF THE PROJECT

- All the manual work should be converted into computerized so that the load of employees should decrease.
- The data should be stored in computer rather than in register manually.
- Booking can be done by sitting at your home only, no need to visit the booking counter.

Data Structure

Singly Linked List

- Linked List is a sequential collection of nodes. Which is faster than array in terms of deletion of nodes. It's memory is dynamically allocated in runtime. This saves time and space.
- Each node consists of four different data field :

#Name

#Age

#Registration Number

#Link to the next node

Data Structure

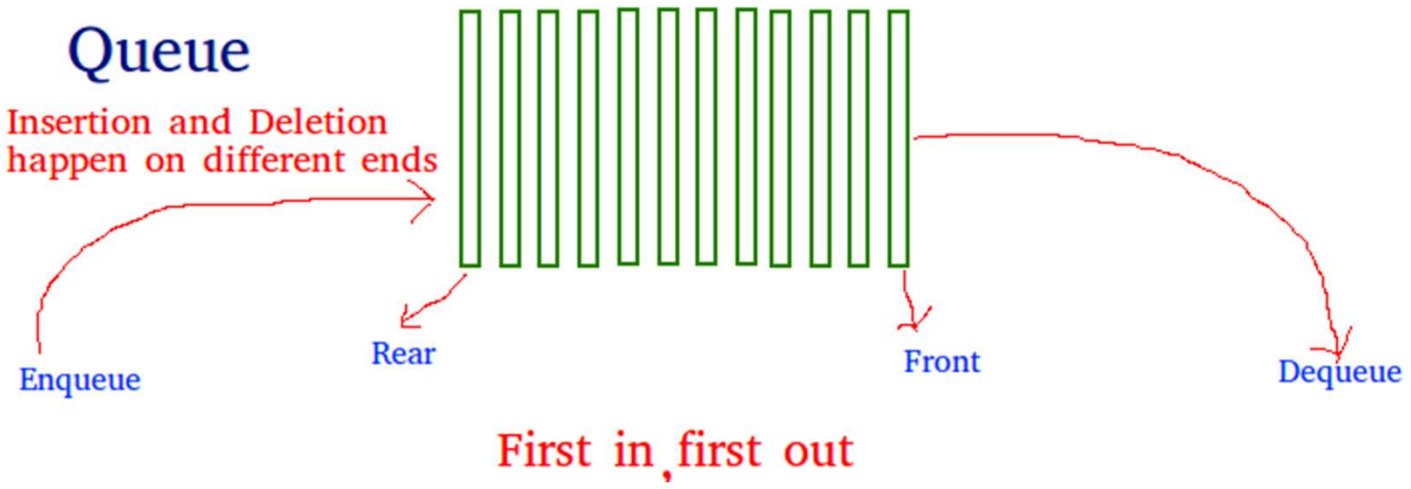
Queue

- Queue is a data structure in which insertion and deletion takes place from the ends. It follows First In First Out Principle.
- Queue data structure is used here to store the waiting list passengers. If anyone cancels their ticket then that seat is allocated to the first passenger in the queue.

Data Structure

LINEAR QUEUE

A Queue is a linear structure which follows a particular order in which the operations are performed. The order is First In First Out (FIFO) .In a queue, we remove the item the least recently added.



Learnings from this project

We learnt to solve real life problems by using data Structures

Actual implementation of data structures that we have learnt

By using technology how we can save our time

ADVANTAGES

- Reduces the burden of traveler waiting in the booking counter.
- User-friendly.
- Convenient.
- Time savings.
- Helpful during COVID.

What's next for the project.

- We can optimise our time complexity using some different data structure.
- We can add features such as prioritising on the basis of age or railway employees and gender.
- We can add feature of tatkal reservation.
- We can provide this solution on online portal.