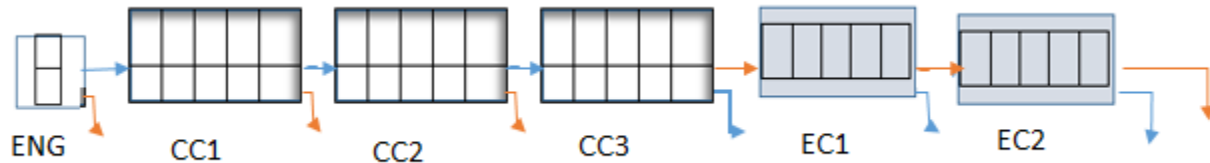


III Sem DSA End Semester Lab Examination - 2022

Goa Express has got 2 classes of coaches: Chair Car (CC) and Executive Chair Car (EC). There are three CC coaches and two EC coaches. Each CC coach can accommodate 10 passengers with seats arranged in 2 rows of 5 seats each. An EC coach can accommodate 5 passengers. The initial coach composition is as given below with header node representing the engine. Each node (*structure varies based on coach class*) will store information about coach number, passenger's details (as specified below), Available Vacant Seats along with two pointers (to CC/EC). The header node will hold **your name and register number**, Count of CC and EC coaches along with pointers.



Write a menu driven program based on linked list with header node concept. The following menu options have to be provided:

Booking: Following input is taken from the passenger based on coach type (CC/EC).

CC coach: Name, Mobile Number.

EC coach: Name, Mobile Number, Food[V/N]

Seat is allocated sequentially coach-wise starting from CC1, CC2 and CC3 for CC coaches and from EC1 and then EC2 for EC coaches. If no seats are available in a particular class, display appropriate message.

Departure: When this option is selected, a vacant coach is detached from the train and the head node (Engine) is updated with available number of coaches of each class.

Charting: A chart is displayed showing the Coach Type, Coach Number, Passenger Name, Mobile Number [and Food Option for EC].