

National University of Computer and Emerging Sciences, Lahore Campus



Course:	Software Design and Analysis	Course Code:	CS-3004
Program:	BS (Computer Science)	Semester:	Fall 2023
Duration:	30 Minutes	Total Marks:	15
Quiz Date:	20-Sep-23	Roll No.	
Section:	BCS-5L	Name:	

The Airline Reservation System (ARS) is a general Airline Ticketing system, which helps the customers to search the availability and prices of various airline tickets, along with the different packages available with the ticket purchase. This system also provides various features like registration of the users, modifying the details of the system management staff, by adding, deleting, or modifying the customer details, flights and their routes with timings, or packages information.

The ARS supports customer registration, where the customer can enter his/her details and register. He/She also creates a username and password. Moreover, he/she will also be able to modify the registration information in case of a change in his e-mail address or any other information.

The customer can also search for the flights available and reserve a place on the flight by purchasing a ticket. The ARS does not provide reservation of tickets in advance, rather all tickets need to be purchased for a place to be booked on any given route. Multiple flights operate on each route, at different times of the day. When purchasing a ticket, the customer also specifies the placement of the seat in the aircraft. Customers may use either a Credit Card (Visa/Master) to pay for the ticket or they may pay using EasyPaisa/JazzCash. Ticket prices are determined based on the age of the customer: minors with ages less than 10 are charged 50% of the ticket price, while Senior Citizens are also given a 25% discount on the ticket price. Everyone else pays the full ticket price.

ARS only allows customers to book 1 baggage of less than 20kg weight by default. Any additional luggage (in units of 20kg baggage) must be specified and paid for at the time of purchase of ticket. Customers may cancel a ticket at any time, given they do so before the flight takes off. After flight departure, no refunds are processed. The refunded amount is paid back to the customer through wire transfer to their accounts (information that was provided by the customer at the time of ticket purchase).

- **For this case study, develop an Analysis Class Diagram. Mention attributes, relationships and multiplicity.**

