AIRLINE RESERVATION SYSTEM

Java Case Study by

CH.HARIKA

HU21CSEN0101163

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Airline Reservation System" main aim is to provide the online ticket & seat reservation of National and International Flights and also give us the information about flight seats availability.

PROPOSED SYSTEM:

In order to eliminate the errors of the previous system, a superb application has been developed in which the user need not waste his valuable time in booking the ticket and instead a server is built that takes care of every action thereby reducing the size & effort of all users.

PURPOSE:

The purpose of the present Airline Reservation system is to allow customers to interact that gives some basic information such as all ticket booking, availability of seats, and flight

information.This project on Airline Management System is the automation of the registration process of airline systems. The system is able to provide much information like passenger's details, flight details and the booking details. The system allows us to add records when a passenger reserves a ticket. It also allows users to delete and update the records based on passenger's requirements. This project has guided our path through various aspects of computer science where developing online applications plays a major role.

CODE:

Java

```java
import java.util.Scanner;


public class FlightReservation {
    private static final int NUM_SEATS = 130;
    private static boolean[] seats = new boolean[NUM_SEATS];
    private static Scanner scanner = new Scanner(System.in);
    public static void main(String[] args) {
        while (true) {
            System.out.println("Book your flight with a happy
ease");
```

```
            System.out.println("a. Reserve a seat");
            System.out.println("b. View available seats");
            System.out.println("c. Exit");
            System.out.print("Enter your choice: ");
            String choice = scanner.next();

            switch (choice) {
                case "a":
                    reserveSeat();
                    break;

                case "b":
                    viewAvailableSeats();
                    break;

                case "c":
                    System.out.println("Thank you Have a safe
journey!");
                    scanner.close();
                    System.exit(0);
```

```
                    break;
                default:
                    System.out.println("Invalid choice. Please
try again.");
                    break;
            }
        }
    }
    private static void reserveSeat() {
        System.out.print("Enter seat number (1-" + NUM_SEATS +
"): ");
        int seatNumber = scanner.nextInt();
        if (seatNumber < 1 || seatNumber > NUM_SEATS) {
            System.out.println("Incorrect seat number. Please
enter a number between 1 and " + NUM_SEATS + ".");
        } else if (seats[seatNumber - 1]) {
            System.out.println("Sorry, that seat is already
reserved.");
        } else {
            seats[seatNumber - 1] = true;
            String seatType = getSeatType(seatNumber);
```

```
            String passengerName = getPassengerName();
            int passengerAge = getPassengerAge();
            System.out.println("Seat " + seatNumber + " (" +
seatType + ") reserved for " + passengerName + " (Age: " +
passengerAge + ").");
        }
    }
    private static void viewAvailableSeats() {
        int availableSeats = 0;
        for (int i = 0; i < NUM_SEATS; i++) {
            if (!seats[i]) {
                String seatType = getSeatType(i + 1);
                System.out.println("Seat " + (i + 1) + " (" +
seatType + ") is available.");
                availableSeats++;
            }
        }
        System.out.println("Number of available seats: " +
availableSeats);
    }
    private static String getSeatType(int seatNumber) {
```

```
        String seatType = "";
        if (seatNumber <= 65 && (seatNumber == 1 || seatNumber ==
2 || seatNumber % 2 == 0)) {
            seatType = "window";
        } else if (seatNumber > 65 && (seatNumber == 129 ||
seatNumber == 130 || seatNumber % 2 == 1)) {
            seatType = "window";
        } else {
            seatType = "normal";
        }
        return seatType;
    }

    private static String getPassengerName() {
        System.out.print("Enter passenger name: ");
        String name = scanner.next();
        return name;
    }
    private static int getPassengerAge() {
        System.out.print("Enter passenger age: ");
```

```
        int age = scanner.nextInt();
        return age;
    }
}
```

FUNCTIONS USED:

- `main()` function: This function contains the main logic of the program. It presents a menu to the user with three options - to reserve a seat, view available seats, or exit the program. Based on the user's input, it calls the relevant function to execute the corresponding task.
- `reserveSeat()` function: This function is called when the user chooses to reserve a seat. It prompts the user to enter a seat number and checks whether the seat is available. If the seat is available, it reserves the seat for the user and prompts them to enter their name and age.
- `viewAvailableSeats()` function: This function is called when the user chooses to view available seats. It iterates through all the seats and checks if they are available. If a seat is available, it displays the seat number and its type (window or normal).
- `getSeatType()` function: This function takes a seat number as an input and returns the type of seat (window or normal) based on the seat number.
- `getPassengerName()` function: This function prompts the user to enter their name and returns it.
- `getPassengerAge()` function: This function prompts the user to enter their age and returns it.

ABOUT CODE:

Note that the code uses an array of boolean values to keep track of which seats are reserved. It also uses a Scanner object to read user input from the console.

This code defines a flight reservation system that allows a user to reserve a seat, view available seats, or exit the program. The system can handle up to 130 seats, and the seats are represented using a boolean array where false means the seat is available, and true means it has been reserved.

The program starts with a while loop that keeps running until the user chooses to exit the program. Inside the loop, the user is presented with three options: to reserve a seat, view available seats, or exit. The user's choice is obtained using the Scanner class, and a switch statement is used to call the appropriate method for each choice.

OUTPUT:

Book your flight with a happy ease

a. Reserve a seat

b. View available seats

c. Exit

Enter your choice: a

Enter seat number (1-130): 1

Enter passenger name: harika

Enter passenger age: 19

Seat 1 (window) reserved for harika (Age: 19).

Enter your choice: b

Seat 2 (window) is available.Seat 3 (normal) is available.Seat 4 (window) is available.Seat 5 (normal) is available.Seat 6 (window) is available.Seat 7 (normal) is available.Seat 8 (window) is available.Seat 9 (normal) is available.Seat 10 (window) is available.Seat 11 (normal) is available.Seat 12 (window) is available.Seat 13 (normal) is available.Seat 14 (window) is available.Seat 15 (normal) is available.Seat 16 (window) is available.Seat 17 (normal) is available.Seat 18 (window) is available.Seat 19 (normal) is available.Seat 20 (window) is available.Seat 21 (normal) is available.Seat 22 (window) is available.Seat 23 (normal) is available.Seat 24 (window) is available.Seat 25 (normal) is available.Seat 26 (window) is available.Seat 27 (normal) is available.Seat 28 (window) is available.Seat 29 (normal) is available.Seat 30 (window) is available.Seat 31 (normal) is available.Seat 32 (window) is available.Seat 33 (normal) is available.Seat 34 (window) is available.Seat 35 (normal) is available.Seat 36 (window) is available.Seat 37 (normal) is available.Seat 38 (window) is available.Seat 39 (normal) is available.Seat 40 (window) is available.Seat 41 (normal) is available.Seat 42 (window) is available.Seat 43 (normal) is available.Seat 44 (window) is available.Seat 45 (normal) is available.Seat 46 (window) is available.Seat 47 (normal) is available.Seat 48 (window) is available.Seat 49 (normal) is available.Seat 50 (window) is available.Seat 51 (normal) is available.Seat 52 (window) is available.Seat 53 (normal) is available.Seat 54 (window) is available.Seat 55 (normal) is available.Seat 56 (window) is available.Seat 57 (normal) is available.Seat 58 (window) is available.Seat 59 (normal) is available.Seat 60 (window) is available.Seat 61 (normal) is available.Seat 62 (window) is available.Seat 63 (normal) is available.Seat 64 (window) is available.Seat 65 (normal) is available.Seat 66 (normal) is available.Seat 67 (window) is available.Seat 68 (normal) is available.Seat 69 (window) is available.Seat 70 (normal) is available.Seat 71 (window) is available.Seat 72 (normal) is available.Seat 73 (window) is available.Seat 74 (normal) is available.Seat 75 (window) is available.Seat 76 (normal) is available.Seat 77 (window) is available.Seat 78 (normal) is available.Seat 79 (window) is available.Seat 80 (normal) is available.Seat 81 (window) is available.Seat 82 (normal) is available.Seat 83 (window) is available.Seat 84 (normal) is available.Seat 85 (window) is available.Seat 86 (normal) is available.Seat 87 (window) is available.Seat 88 (normal) is available.Seat 89 (window) is available.Seat 90 (normal) is available.Seat 91 (window) is available.Seat 92 (normal) is available.Seat 93 (window) is available.Seat 94 (normal) is available.Seat 95 (window) is available.Seat 96 (normal) is available.Seat 97 (window) is available.Seat 98 (normal) is available.Seat 99 (window) is available.Seat 100 (normal) is available.Seat 101 (window) is available.Seat 102 (normal) is available.Seat 103 (window) is available.Seat 104 (normal) is available.Seat 105 (window) is available.Seat 106 (normal) is available.Seat 107 (window) is available.Seat 108 (normal) is available.Seat 109 (window) is available.Seat 110 (normal) is available.Seat 111 (window) is available.Seat 112 (normal) is available.Seat 113 (window) is available.Seat114 (normal) is available.Seat 115 (window) is available.Seat 116 (normal) is available.Seat 117 (window) is available.

Seat 118 (normal) is available.Seat 119 (window) is available.Seat 120 (normal) is available.Seat 121 (window) is available.Seat 122 (normal) is available.Seat 123 (window) is available.Seat 124 (normal) is available.Seat 125 (window) is available.

Seat 126 (normal) is available.Seat 127 (window) is available,Seat 128 (normal) is available.Seat 129 (window) is available.Seat 130 (window) is available.

Number of available seats: 129

Enter your choice: c Thank you. Have a safe journey!