/class to represent ticket

class Ticket {

string ticketNum, flightNum, passengerName;

public:

//function to set ticket details

void setTicket(string tNum, string fNum, string pName) {

ticketNum = tNum;

flightNum = fNum;

passengerName = pName;

}

//function to show ticket details

void displayTicket()

{

cout << "Ticket: " << ticketNum << ", Flight: " << flightNum

<< ", Passenger: " << passengerName << endl;

}

// New function: get ticket info string

string ticketInfo() {

return "Ticket #" + ticketNum + " for " + passengerName + " on flight " + flightNum;

}

};

//class represent admin inherits from person

class Admin:public Person {

string username, password;

public:

//function to set admin info

void setAdmin(string u, string p)

{

username = u;

password = p;

}

//function for admin login

bool login(string u, string p)

{

return username == u && password == p;

}

// New function: change admin password

bool changePassword(string oldP, string newP) {

if (password == oldP)

{

password = newP;

return true;

}

return false;

}

};

//function to display menu

void displayMenu() {

cout << "\n===== Airline Reservation Menu =====\n";

cout << "1. Admin Login\n2. Show Flights\n3. Book Flight\n4. Cancel Booking\n";

cout << "5. Show Passengers\n6. Show Payments\n7. Show Tickets\n8. Change Admin Password\n0. Exit\n";

cout << "Enter choice: ";

}

//function to print divider

void printDivider() {

cout << "-------------------------------------------\n";

}

// Additional helper function to find flight index by flight number

int findFlightIndex(const Flight flights[], int flightCount, const string &flightNum) {

for (int i = 0; i < flightCount; i++) {

if (flights[i].getFlightNumber() == flightNum) {

return i;

}

}

return -1; // ? Correctly placed outside the loop

}

// Additional helper function to find passenger index by name

int findPassengerIndex(const Passenger passengers[], int passengerCount, const string& name) {

for (int i = 0; i < passengerCount; i++)

if (passengers[i].getName() == name)

return i;

return -1;

}

//main function

int main()

{

//declaring arrays for flights,passengers,payments,tickets

Flight flights[100]; // Increased capacity for flights

Passenger passengers[200]; // Increased capacity for passengers

Payment payments[200]; //increased capacity for payments

Ticket tickets[200]; //increased capacity for tickets

//initialize counters for flights,passengers,payments

int flightCount = 0, passengerCount = 0, paymentCount = 0, ticketCount = 0;

//set admin credentials

Admin admin;

admin.setAdmin("Areeba", "123");

// Original flights

flights[0].setFlight("AA101", "KARACHI", "ISLAMABAD", 5, 250.0);

flights[1].setFlight("AA102", "LAHORE", "MULTAN", 3, 230.0);

flightCount = 2;

// Additional flights added without modifying original code logic

flights[2].setFlight("AA103", "ISLAMABAD", "KARACHI", 4, 300.0);

flights[3].setFlight("AA104", "MULTAN", "LAHORE", 2, 220.0);

flights[4].setFlight("AA105", "KARACHI", "PESHAWAR", 6, 270.0);

flights[5].setFlight("AA106", "LAHORE", "QUETTA", 5, 250.0);

flights[6].setFlight("AA107", "PESHAWAR", "ISLAMABAD", 7, 200.0);

flights[7].setFlight("AA108", "QUETTA", "KARACHI", 3, 320.0);

flights[8].setFlight("AA109", "ISLAMABAD", "LAHORE", 4, 280.0);

flights[9].setFlight("AA110", "MULTAN", "PESHAWAR", 2, 210.0);

flights[10].setFlight("AA111", "KARACHI", "LAHORE", 5, 260.0);

flights[11].setFlight("AA112", "ISLAMABAD", "QUETTA", 3, 330.0);

flights[12].setFlight("AA113", "PESHAWAR", "MULTAN", 6, 270.0);

flights[13].setFlight("AA114", "LAHORE", "KARACHI", 4, 260.0);

flights[14].setFlight("AA115", "QUETTA", "ISLAMABAD", 3, 310.0);

flights[15].setFlight("AA116", "MULTAN", "LAHORE", 7, 220.0);

flights[16].setFlight("AA117", "KARACHI", "PESHAWAR", 5, 270.0);

flights[17].setFlight("AA118", "ISLAMABAD", "MULTAN", 4, 280.0);

flights[18].setFlight("AA119", "PESHAWAR", "KARACHI", 6, 250.0);

flights[19].setFlight("AA120", "LAHORE", "QUETTA", 3, 300.0);

flights[20].setFlight("AA121", "KARACHI", "ISLAMABAD", 8, 245.0);

flights[21].setFlight("AA122", "MULTAN", "LAHORE", 5, 210.0);

flights[22].setFlight("AA123", "ISLAMABAD", "PESHAWAR", 7, 295.0);

flights[23].setFlight("AA124", "QUETTA", "MULTAN", 4, 330.0);

flights[24].setFlight("AA125", "LAHORE", "KARACHI", 6, 260.0);

flights[25].setFlight("AA126", "ISLAMABAD", "LAHORE", 5, 275.0);

flights[26].setFlight("AA127", "PESHAWAR", "QUETTA", 4, 310.0);

flights[27].setFlight("AA128", "KARACHI", "MULTAN", 7, 260.0);

flights[28].setFlight("AA129", "MULTAN", "ISLAMABAD", 3, 280.0);

flights[29].setFlight("AA130", "LAHORE", "PESHAWAR", 6, 250.0);

flights[30].setFlight("AA131", "KARACHI", "QUETTA", 5, 320.0);

flights[31].setFlight("AA132", "ISLAMABAD", "LAHORE", 4, 285.0);

flights[32].setFlight("AA133", "PESHAWAR", "MULTAN", 6, 270.0);

flights[33].setFlight("AA134", "KARACHI", "LAHORE", 5, 310.0);

flights[34].setFlight("AA135", "MULTAN", "LAHORE", 3, 220.0);

flights[35].setFlight("AA136", "LAHORE", "ISLAMABAD", 7, 270.0);

flights[36].setFlight("AA137", "PESHAWAR", "KARACHI", 4, 260.0);

flights[37].setFlight("AA138", "QUETTA", "MULTAN", 5, 300.0);

flights[38].setFlight("AA139", "KARACHI", "LAHORE", 6, 255.0);

flights[39].setFlight("AA140", "ISLAMABAD", "QUETTA", 5, 315.0);

flights[40].setFlight("AA141", "MULTAN", "PESHAWAR", 7, 230.0);

flights[41].setFlight("AA142", "LAHORE", "KARACHI", 6, 260.0);

flights[42].setFlight("AA143", "ISLAMABAD", "MULTAN", 4, 270.0);

flights[43].setFlight("AA144", "PESHAWAR", "LAHORE", 5, 280.0);

flights[44].setFlight("AA145", "KARACHI", "ISLAMABAD", 3, 240.0);

flights[45].setFlight("AA146", "MULTAN", "QUETTA", 4, 290.0);

flights[46].setFlight("AA147", "LAHORE", "PESHAWAR", 5, 265.0);

flights[47].setFlight("AA148", "ISLAMABAD", "KARACHI", 6, 275.0);

flights[48].setFlight("AA149", "QUETTA", "LAHORE", 3, 310.0);

flights[49].setFlight("AA150", "PESHAWAR", "MULTAN", 5, 270.0);

flightCount = 50;