

## Implement Airline scheduling and cargo schedules Expert System

### Program:

```
import java.util.*;

// Example Class for Flight
class Flight {
    String flightNumber;
    Airport sourceAirport;
    Airport destinationAirport;
    Date departureTime;
    Date arrivalTime;

    public Flight(String flightNumber, Airport sourceAirport,
Airport destinationAirport, Date departureTime, Date arrivalTime) {
        this.flightNumber = flightNumber;
        this.sourceAirport = sourceAirport;
        this.destinationAirport = destinationAirport;
        this.departureTime = departureTime;
        this.arrivalTime = arrivalTime;
    }
}

// Example Class for Cargo
class Cargo {
    String cargoID;
    Airport sourceAirport;
    Airport destinationAirport;

    public Cargo(String cargoID, Airport sourceAirport, Airport
destinationAirport) {
        this.cargoID = cargoID;
        this.sourceAirport = sourceAirport;
        this.destinationAirport = destinationAirport;
    }
}

// Example Class for Airport
```

```

class Airport {
    String code;

    public Airport(String code) {
        this.code = code;
    }
}

// Example Class for InferenceEngine
class InferenceEngine {
    public List<Flight> suggestFlights(Cargo cargo) {
        // Dummy implementation to suggest flights
        List<Flight> suggestedFlights = new ArrayList<>();
        // Adding dummy suggested flights
        suggestedFlights.add(new Flight("ABC123",
cargo.sourceAirport, cargo.destinationAirport, new Date(), new
Date()));
        suggestedFlights.add(new Flight("XYZ456",
cargo.sourceAirport, cargo.destinationAirport, new Date(), new
Date()));
        return suggestedFlights;
    }
}

// Example Class for UserInterface
class UserInterface {
    private InferenceEngine inferenceEngine;

    public UserInterface(InferenceEngine inferenceEngine) {
        this.inferenceEngine = inferenceEngine;
    }

    public void start() {
        Scanner scanner = new Scanner(System.in);

        System.out.println("Welcome to the Airline Scheduling and
Cargo System!");
    }
}

```

```
System.out.println("Please enter cargo details:");

System.out.print("Cargo ID: ");
String cargoID = scanner.nextLine();

System.out.print("Source Airport Code: ");
String sourceAirportCode = scanner.nextLine();
Airport sourceAirport = new Airport(sourceAirportCode);

System.out.print("Destination Airport Code: ");
String destinationAirportCode = scanner.nextLine();
Airport destinationAirport = new
Airport(destinationAirportCode);

Cargo cargo = new Cargo(cargoID, sourceAirport,
destinationAirport);

List<Flight> suggestedFlights =
inferenceEngine.suggestFlights(cargo);

if (suggestedFlights.isEmpty()) {
    System.out.println("No flights available for the given
cargo details.");
} else {
    System.out.println("Suggested Flights for Cargo " +
cargoID + ":");
    for (Flight flight : suggestedFlights) {
        System.out.println("Flight Number: " +
flight.flightNumber);
        System.out.println("Departure: " +
flight.departureTime);
        System.out.println("Arrival: " +
flight.arrivalTime);
        System.out.println("From: " +
flight.sourceAirport.code);
```

```

                System.out.println("To: " +
flight.destinationAirport.code);

                System.out.println();

            }

        }

    }

}

// Example Main Class

public class Main {

    public static void main(String[] args) {

        InferenceEngine inferenceEngine = new InferenceEngine();

        UserInterface ui = new UserInterface(inferenceEngine);

        ui.start();

    }

}

```

### **Output:**

Welcome to the Airline Scheduling and Cargo System!

Please enter cargo details:

Cargo ID: CG123

Source Airport Code: JFK

Destination Airport Code: LAX

Suggested Flights for Cargo CG123:

Flight Number: ABC123

Departure: Tue Apr 23 00:59:05 IST 2024

Arrival: Tue Apr 23 00:59:05 IST 2024

From: JFK

To: LAX

Flight Number: XYZ456

Departure: Tue Apr 23 00:59:05 IST 2024

Arrival: Tue Apr 23 00:59:05 IST 2024

From: JFK

To: LAX