

Assignment No 6

1) Information Management

```
class ExpertSystem:
    def __init__(self):
        self.knowledge_base = {}

    def add_rule(self, condition, result):
        self.knowledge_base[condition] = result

    def infer(self, condition):
        return self.knowledge_base.get(condition, "No information available")

# Example usage:
es = ExpertSystem()
es.add_rule("data_security", "Ensure encryption and access control")
es.add_rule("backup_policy", "Perform daily backups")
es.add_rule("data_privacy", "Follow GDPR and HIPAA guidelines")

query = "data_security"
print(f"Expert system recommendation for {query}: {es.infer(query)}")
```

output -

Expert system recommendation for data_security: Ensure encryption and access control

=== Code Execution Successful ===

2) airline scheduling

```
class AirlineExpertSystem:
    def __init__(self):
        self.flights = {}

    def add_flight(self, flight_number, origin, destination, departure_time, arrival_time):
        self.flights[flight_number] = {
            "origin": origin,
```

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        "destination": destination,
        "departure_time": departure_time,
        "arrival_time": arrival_time
    }

    def get_flight_info(self, flight_number):
        return self.flights.get(flight_number, "Flight not found")

    def find_flights(self, origin, destination):
        available_flights = [f for f, details in self.flights.items() if details["origin"] == origin
and details["destination"] == destination]
        return available_flights if available_flights else "No flights available"

# Example usage:
es = AirlineExpertSystem()
es.add_flight("AI101", "New York", "Los Angeles", "08:00 AM", "11:00 AM")
es.add_flight("AI102", "New York", "Chicago", "09:00 AM", "11:30 AM")
es.add_flight("AI103", "Los Angeles", "Chicago", "10:00 AM", "01:00 PM")

print("Flight AI101 info:", es.get_flight_info("AI101"))
print("Flights from New York to Los Angeles:", es.find_flights("New York", "Los
Angeles"))

```

Output-

```

Flight AI101 info: {'origin': 'New York', 'destination': 'Los Angeles', 'departure_time':
'08:00 AM', 'arrival_time': '11:00 AM'}
Flights from New York to Los Angeles: ['AI101']

```

=== Code Execution Successful ===