

- **List of the FDs for each entity, along with their minimal FD. And proof of relation being in BCNF.**
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1. Country

FDs:

CountryCode \rightarrow CountryName

Minimal FD:

CountryCode \rightarrow CountryName

Candidate Key: CountryCode

- Since LHS is a candidate key \rightarrow **BCNF Satisfied**
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2. City

FDs:

(CityName, State) \rightarrow CountryCode

Minimal FD:

(CityName, State) \rightarrow CountryCode

Candidate Key: (CityName, State)

- LHS is candidate key \rightarrow **BCNF Satisfied**
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3. Airport

FDs:

AirCode \rightarrow AirName, City, State, CountryCode

Minimal FD:

AirCode \rightarrow AirName, City, State, CountryCode

Candidate Key: AirCode

- LHS is candidate key \rightarrow **BCNF Satisfied**

4. Airline

FDs:

AirlineID → AirlineName

Minimal FD:

AirlineID → AirlineName

Candidate Key: AirlineID

- LHS is candidate key → **BCNF Satisfied**
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5. Employee

FDs:

EmpID → EmpName, Age, Address, Contact, EmailID

Minimal FD:

EmpID → EmpName, Age, Address, Contact, EmailID

Candidate Key: EmpID

- LHS is candidate key → **BCNF Satisfied**
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6. Flight

FDs:

FlightCode → Source, Destination, Departure, Arrival, Duration, Date

Minimal FD:

FlightCode → Source, Destination, Departure, Arrival, Duration, Date

Candidate Key: FlightCode

- LHS is candidate key → **BCNF Satisfied**

7. Airfare

FDs:

FareID → ChargeAmount, Description

Minimal FD:

FareID → ChargeAmount, Description

Candidate Key: FareID

- LHS is candidate key → **BCNF Satisfied**
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8. AirplaneType

FDs:

AID → Capacity, AWeight, Company

Minimal FD:

AID → Capacity, AWeight, Company

Candidate Key: AID

- LHS is candidate key → **BCNF Satisfied**
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9. Route

FDs:

RouteID → TakeOffPoint, Destination, RouteType

Minimal FD:

RouteID → TakeOffPoint, Destination, RouteType

Candidate Key: RouteID

- LHS is candidate key → **BCNF Satisfied**

10. Passenger

FDs:

PassportNo → FirstName, MiddleName, LastName, Age, Sex, Address, Phone

Minimal FD:

PassportNo → FirstName, MiddleName, LastName, Age, Sex, Address, Phone

Candidate Key: PassportNo

- LHS is candidate key → **BCNF Satisfied**
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11. Ticket

FDs:

TicketNo → Type, DateOfTravel, Price, Source, Destination

Minimal FD:

TicketNo → Type, DateOfTravel, Price, Source, Destination

Candidate Key: TicketNo

- LHS is candidate key → **BCNF Satisfied**
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12. Transaction

FDs:

TSID → BookingDate, DepartureDate, ChargeAmount, TransactionType, EmpID

Minimal FD:

TSID → BookingDate, DepartureDate, ChargeAmount, TransactionType, EmpID

Candidate Key: TSID

- LHS is candidate key → **BCNF Satisfied**