IT214: DATABASE MANAGEMENT SYSTEMS

DBMS Project:- Online Tours and Travels Service

Project Title:- WildFlower Adventures

Group3_15

202101205
202101208
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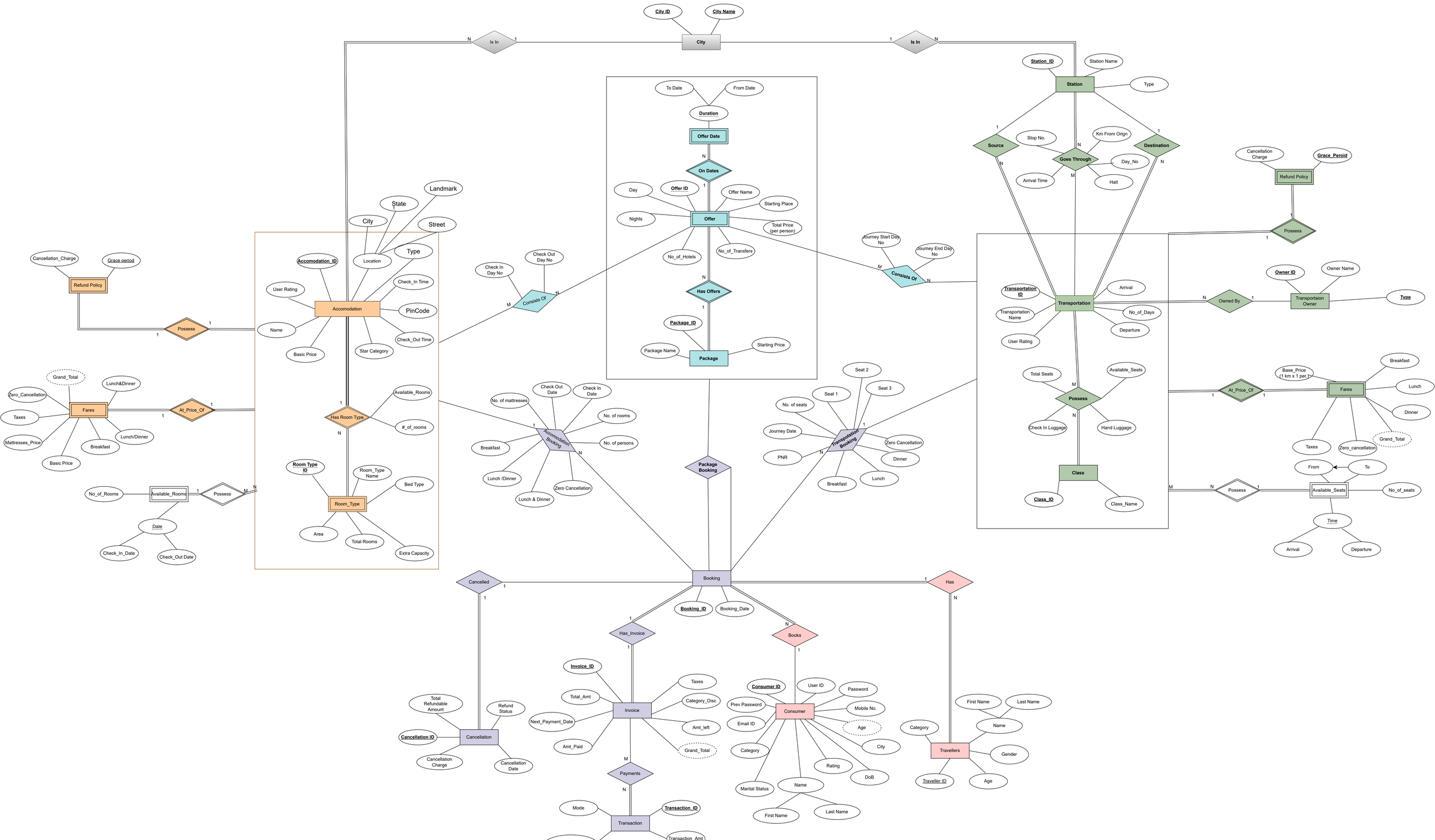
202101231

Group No 3_15

WildFlower Adventures



WildFlower Adventures

Consumer_Profile

PK, FK	Consumer_ID	INT
	First_Name	VARCHAR(50)
	Last Name	VARCHAR(50)
	Email_ID	VARCHAR(50)
	Mobile_No	VARCHAR(50)
	DoB	DATE
	Age	SMALL INT
	Gender	VARCHAR(50)
	City	VARCHAR(50)
	Rating	SMALLINT

Bank_Details

PK	Account_No	BIGINT
PK,FK	Consumer_ID	INT
	Account_Holder_Name	VARCHAR(50)
	IFSC_Code	VARCHAR(50)
	UPI_ID	VARCHAR(50)
	Credit_Card_No	BIGINT
	Debit_Card_No	BIGINT

Consumer

PK	Consumer_ID	INT
	UserName	VARCHAR(50)
	Password	VARCHAR(50)
	Prev_Password	VARCHAR(50)

Travellers

PK	Traveller_ID	INT
	First_Name	VARCHAR(50)
	Last_Name	VARCHAR(50)
	Age	SMALLINT
	Gender	VARCHAR(50)
FK	Booking_ID	INT

Transaction

PK	Transaction_ID	VARCHAR(50)
FK	Invoice_ID	VARCHAR(50)
	Transaction_Mode	VARCHAR(50)
	Amount	INT
	Transaction_TimeStamp	TIMESTAMP

Invoice_Details

PK	Invoice_ID	VARCHAR(50)
	Total Amount	INT
	Taxes	INT
	Category_Discount	INT
	Grand Total	INT
	Total_Amount_Paid	INT
	Amount_Left	INT
	Next_Installation	DATE

Cancellation

PK	Cancellation_ID	INT
PK,FK	Booking_ID	INT
	Cancellation_Date	DATE
	Cancellation_Charge	INT
	Total_Refundable_Amount	INT
	Refund_Status	VARCHAR(50)

Accomodation_Fares

PK,FK	Accommodation_ID	VARCHAR(50)
PK,FK	Room_Type_ID	INT
	Base_Price	INT
	Mattresses	SMALLINT
	Breakfast	INT
	Lunch_Or_Dinner	INT
	Lunch_And_Dinner	INT
	Zero_Cancellation	INT
	Taxes	INT

Accomodation

PK	Accommodation_ID	VARCHAR(50)
	Accommodation_Name	VARCHAR(50)
	Accommodation_Type	VARCHAR(50)
	Street	VARCHAR(50)
	LandMark	VARCHAR(50)
	City	VARCHAR(50)
	State	VARCHAR(50)
	PINCODE	INT
	Check_In_Time	TIME
	Check_Out_Time	TIME
	User_Rating	SMALLINT
	Star_Category	SMALLINT
	Starting_Price	INT

Accomodation_Add_On

PK,FK1	Booking_ID	INT
	Breakfast	BIT
	Lunch_Or_Dinner	BIT
	Dinner	BIT
	No_Of_Mattresses	SMALLINT
	Zero_Cancellation	BIT

Booking

PK	Booking_ID	INT
	Facility_Type	VARCHAR(50)
FK1	Consumer_ID	INT
FK2	Invoice_ID	VARCHAR(50)
	Booking_Date	DATE
	No_ of_Travellers	INT

Transportation_Add_On

PK,FK1	Booking_ID	INT
	Breakfast	BIT
	Lunch	BIT
	Dinner	BIT
	Zero_Cancellation	BIT

Transportation_Booking

PK,FK1	Booking_ID	INT
FK2	Class_ID	SMALLINT
	To	VARCHAR(50)
	From	VARCHAR(50)
FK2	Transportation_ID	VARCHAR(50)
	Departure_Timestamp	TIMESTAMP
	Arrival_Timestamp	TIMESTAMP
	PNR	INT
	Booking_Status	VARCHAR(50)

Package_Booking_Details

PK,FK1	Package_Booking_ID	INT
PK,FK2	Backend_Booking_ID	INT

Package_Booking

PK,FK1	Booking_ID	INT
FK2	Package_ID	SMALLINT
FK2	Offer_ID	SMALLINT
FK2	Date_From	DATE
FK2	Date_To	DATE

Seats

PK,FK1	Booking_ID	INT
PK,	Seat_Number	SMALLINT

Transportation_Owner

PK	Transportation_Owner_ID	SMALLINT
PK	Transportation_Type	VARCHAR(50)
	Transportation_Owner_Name	VARCHAR(50)

Station

PK	Station_Code	VARCHAR(50)
	Station_Name	VARCHAR(50)
	City	VARCHAR(50)
	Transportation_Type	VARCHAR(50)

Route

PK,FK1	Station_Code	VARCHAR(50)
PK,FK2	Transportation_ID	VARCHAR(50)
	Stop Number	SMALLINT
	Arrival	TIME
	Departure	TIME
	Halt	TIME
	Km_From_Origin	SMALLINT
	Day_no	SMALLINT

Transportation

PK	Transportation_ID	VARCHAR(50)
FK1	Source_Code	VARCHAR(50)
FK2	Destination_Code	VARCHAR(50)
	Departure	TIME
	Arrival	TIME
	Transportation_Name	VARCHAR(50)
FK3	Transportation_Type	VARCHAR(50)
FK3	Transportation_Owner_ID	SMALLINT
	User_Rating	SMALLINT
	No_ of_days	SMALLINT

Transportation_Fares

PK,FK	Transportation_ID	VARCHAR(50)
PK,FK	Class_ID	SMALLINT
	Base_Price	INT
	Breakfast	INT
	Lunch	INT
	Dinner	INT
	Zero_Cancellation	INT
	Taxes_Amt	INT

Transportation_Class

PK,FK1	Class_ID	SMALLINT
PK,FK2	Transportation_ID	VARCHAR(50)
	Total_Seats	SMALLINT
	Hand_Luggage	SMALLINT
	Check-in_Luggage	SMALLINT

Transportation_Refund_Rules

PK,FK	Transportation_ID	VARCHAR(50)
PK,FK	Class_ID	SMALLINT
PK	Grace_Period	SMALLINT
	Cancellation_Penalty	INT

Available Seats

PK,FK	Transportation_ID	VARCHAR(50)
PK, FK	Class_ID	SMALLINT
PK	Departure_Timestamp	TIMESTAMP
PK	Arrival_Timestamp	TIMESTAMP
	Available Seats	SMALLINT
	To	VARCHAR(50)
	From	VARCHAR(50)

Classes

PK	Class_ID	SMALLINT
	Class_Name	VARCHAR(50)
	Transportation_Type	VARCHAR(50)

Room_Type

PK	Room_Type_ID	INT
PK, FK	Accommodation_ID	VARCHAR(50)
	Room_Type_Name	VARCHAR(50)
	Capacity	SMALLINT
	Bed_Type	VARCHAR(50)
	Area	SMALLINT
	Extra_Capacity	SMALLINT
	Total_Rooms	SMALLINT

Available_Rooms

PK,FK	Accommodation_ID	VARCHAR(50)
PK,FK	Room_Type_ID	INT
PK	Check_In_Date	DATE
PK	Check_Out_Date	DATE
	Available_Rooms	SMALLINT

Accomodation_Booking

PK,FK1	Booking_ID	INT
FK2	Accomodation_ID	VARCHAR(50)
FK2	Room_Type_ID	INT
	Check_In_Date	DATE
	Check_Out_Date	DATE
	No_Of_Rooms	SMALLINT
	BOOKING_STATUS	VARCHAR(50)

Accomodation_Refund_Rules

PK,FK	Accommodation_ID	VARCHAR(50)
PK,FK	Room_Type_ID	INT
PK	Grace Period	SMALLINT
	Cancellation_Penalty	INT

Offer_Accommodation

PK,FK1	Offer_ID	SMALLINT
PK, FK2	Accommodation_ID	VARCHAR(50)
PK	Check_In_Date	DATE
PK	Check_Out_Date	DATE
PK, FK1	Package_ID	SMALLINT
	Days	SMALLINT
FK2	Room_Type_ID	INT

Offers

PK	Offer_ID	SMALLINT
PK, FK	Package_ID	SMALLINT
	Offer_Name	VARCHAR(50)
	Starting_place	VARCHAR(50)
	Days	SMALLINT
	Nights	SMALLINT
	No_of_Accommodation	SMALLINT
	No_of_Transfers	SMALLINT
	Price	INT

Offer_Transportation

PK,FK1	Offer_ID	SMALLINT
PK,FK2	Transportation_ID	VARCHAR(50)
PK	Departure_Timestamp	TIMESTAMP
PK	Arrival_Timestamp	TIMESTAMP
PK, FK1	Package_ID	SMALLINT
FK2	Class_ID	SMALLINT

Package

PK	Package_ID	SMALLINT
	Package_Name	VARCHAR(50)
	Starting_Price	INT

Offer_Fares

PK,FK	Offer_ID	SMALLINT
PK, FK	Package_ID	SMALLINT
	Base_Price	INT
	Child_Discount	INT
	Total_Food_Amt	INT
	Total_Zero_Cancellation	INT
	Total_Taxes	INT

Offer_Dates

PK,FK	Offer_ID	SMALLINT
PK	Date_From	DATE
PK,	Date_To	DATE
PK, FK	Package_ID	SMALLINT

Offer_Cities

PK,FK1	Offer_ID	SMALLINT
PK,FK2	Package_ID	SMALLINT
	Day_No	SMALLINT
	City	VARCHAR(50)
	Night_Stay	VARCHAR(50)

Minimal FD Set and BCNF Proof

Accommodation

Accommodation_ID -> Accommodation_Name
Accommodation_ID -> Accommodation_Type
Accommodation_ID -> Street
Accommodation_ID -> Landmark
Accommodation_ID -> City
Accommodation_ID -> State
Accommodation_ID -> Pincode
Accommodation_ID -> Check_In_Time
Accommodation_ID -> Check_Out_Time
Accommodation_ID -> User_Rating
Accommodation_ID -> Star_Category
Accommodation_ID -> Starting_Price

Here we can infer from the given FDs that Accommodation_ID is the key. It matches the key from the relation. Hence' Accommodation' is in BCNF.

Room_Type

{Accommodation_ID,Room_Type_ID} -> Room_Type_Name
{Accommodation_ID,Room_Type_ID} -> Capacity
{Accommodation_ID,Room_Type_ID} -> Bed_Type
{Accommodation_ID,Room_Type_ID} -> Area
{Accommodation_ID,Room_Type_ID} -> View
{Accommodation_ID,Room_Type_ID} -> Extra_Capacity
{Accommodation_ID,Room_Type_ID} -> Total_Rooms

Here we can infer from the given FDs that {Accommodation_ID, Room_Type_ID} is the key. It matches the key from the relation. Hence 'Room_Type' is in BCNF.

Available_Rooms

{Accommodation_ID,Room_Type_ID} -> Check_In_Date
{Accommodation_ID,Room_Type_ID} -> Check_Out_Date
{Accommodation_ID,Room_Type_ID} -> Available_Rooms

Here we can infer from the given FDs that {Accommodation_ID, Room_Type_ID} is the key. It matches the key from the relation. Hence 'Available_Rooms' is in BCNF.

Accommodation_Fares

{Accomodation_ID,Room_Type_ID} -> Base_Price
{Accommodation_ID,Room_Type_ID} -> Mattresses
{Accommodation_ID,Room_Type_ID} -> Breakfast
{Accommodation_ID,Room_Type_ID} -> Lunch_Or_Dinner
{Accommodation_ID,Room_Type_ID} -> Lunch_And_Dinner
{Accommodation_ID,Room_Type_ID} -> Zero_Cancellation
{Accommodation_ID,Room_Type_ID} -> Taxes
{Accommodation_ID,Room_Type_ID} -> Grand_Total

Here we can infer from the given FDs that {Accommodation_ID, Room_Type_ID} is the key. It matches the key from the relation. Hence 'Accommodation_Fares' is in BCNF.

Accommodation_Refund_Rules

{Accommodation_ID,Room_Type_ID} -> Grace_Period
{Accommodation_ID,Room_Type_ID} -> Cancellation_Penalty

Here we can infer from the given FDs that {Accommodation_ID, Room_Type_ID} is the key. It matches the key from the relation. Hence 'Accommodation_Refund_Rules' is in BCNF.

Transportation_Owner

{Transportation_Owner_ID, Transportation_Type} -> Transportation_Owner_Name

Here we can infer from the given FDs that{Transportation_Owner_ID, Transportation_Type} is the key. It matches the key from the relation. Hence 'Transportation_Facilities_Owner' is in BCNF.

Station

Station_Code -> Station_Name
Station_Code -> City
Station_Code -> Transportation_Type

Here we can infer from the given FDs that Station_Code is the key. It matches the key from the relation. Hence 'Station' is in BCNF.

Classes

Class_ID -> Class_Name
Class_ID -> Transportation_Type

Here we can infer from the given FDs that Class_ID is the key. It matches the key from the relation. Hence 'Classes' is in BCNF.

Transportation

Transportation_ID -> Source_Code
Transportation_ID -> Destination_Code
Transportation_ID -> Departure
Transportation_ID -> Arrival
Transportation_ID -> Transportation_Name
Transportation_ID -> Transportation_Type
Transportation_ID -> Transportation_Owner_ID
Transportation_ID -> User_Rating

Here we can infer from the given FDs that Transportation_ID is the key. It matches the key from the relation. Hence 'Transportation' is in BCNF.

Transportation_Class

{Transportation_ID ,Class_ID } -> Total_Seats
{Transportation_ID ,Class_ID } -> Hand_Luggage

{Transportation_ID ,Class_ID } -> Check-In_Luggage

Here we can infer from the given FDs that {Transportation_ID ,Class_ID} is the key. It matches the key from the relation. Hence 'Transportation_Class' is in BCNF

Routes

{Transportation_ID,Station_Code } -> Stop_Number
{Transportation_ID,Station_Code } -> Arrival_Time
{Transportation_ID,Station_Code } -> Halt
{Transportation_ID,Station_Code } -> Km_From_Origin

Here we can infer from the given FDs that {Transportation_ID,Station_Code } is the key. It matches the key from the relation. Hence 'Routes' is in BCNF.

Avialable_Seats

{Transportation_ID ,Class_ID } -> Departure_Timestamp
{Transportation_ID ,Class_ID } -> Arrival_Timestamp
{Transportation_ID ,Class_ID } -> Available_Seats

Here we can infer from the given FDs that {Transportation_ID ,Class_ID} is the key. It matches the key from the relation. Hence 'Available_Seats' is in BCNF.

Transportation_Fares

{Transportation_ID ,Class_ID } -> Base_Price
{Transportation_ID ,Class_ID } -> Child_Discount
{Transportation_ID ,Class_ID } -> Breakfast
{Transportation_ID ,Class_ID } -> Lunch
{Transportation_ID ,Class_ID } -> Dinner
{Transportation_ID ,Class_ID } -> Zero_Cancellation
{Transportation_ID ,Class_ID } -> Taxes

Here we can infer from the given FDs that {Transportation_ID ,Class_ID } is the key. It matches the key from the relation. Hence 'Transportation_Fares' is in BCNF.

Transportation_Refund_Rules

{Transportation_ID ,Class_ID } -> Grace_Period
{Transportation_ID ,Class_ID } -> Cancellation_Penalty

Here we can infer from the given FDs that {Transportation_ID ,Class_ID } is the key. It matches the key from the relation. Hence 'Transportation_Refund_Rules' is in BCNF.

Package

Package_ID -> Package_Name
Package_ID -> Starting_Price

Here we can infer from the given FDs that Package_ID is the key. It matches the key from the relation. Hence 'Package' is in BCNF.

Offers

{Offer_ID, Package_ID} -> Offer_Name
{Offer_ID, Package_ID} -> No_Of_Days

{Offer_ID, Package_ID} -> No_Of_Nights
{Offer_ID, Package_ID} -> Capacity
{Offer_ID, Package_ID} -> No_Of_Accommodations
{Offer_ID, Package_ID} -> No_Of_Transportations
{Offer_ID, Package_ID} -> Price

Here we can infer from the given FDs that {Offer_ID, Package_ID} is the key. It matches the key from the relation. Hence 'Offers' is in BCNF.

Offer_Dates
Here we have no FDs, meaning all the attributes are keys. It matches the key from the relation. Hence 'Offer_Dates' is in BCNF.

Offer_Accommodation
{Offer_ID, Check-In_Date, Check-Out_Date, Accommodation_ID} -> Room_Type_ID

Here we can infer from the given FDs that {Offer_ID, Check-In_Date, Check-Out_Date, Accommodation_ID} is the key. It matches the key from the relation. Hence 'Offer_Accommodation' is in BCNF.

Offer_Transportation
{Offer_ID, Departure_Timestamp, Arrival_Timestamp , Transportation_ID} -> Class_ID

Here we can infer from the given FDs that {Offer_ID, Journey_Start_Date, Journey_End_Date, Transportation_ID} is the key. It matches the key from the relation. Hence 'Offer_Transportation' is in BCNF.

Consumer
Consumer_ID -> UserName
Consumer_ID -> Password
Consumer_ID -> Prev_Password

Here we can infer from the given FDs that Consumer_ID is the key. It matches the key from the relation. Hence 'Consumer' is in BCNF.

Consumer_Profile
Consumer_ID -> First_Name
Consumer_ID -> Last_Name
Consumer_ID -> Email_ID
Consumer_ID -> Mobile_No
Consumer_ID -> DoB
Consumer_ID -> Age
Consumer_ID -> Gender
Consumer_ID -> City
Consumer_ID -> Rating

Here we can infer from the given FDs that Consumer_ID is the key. It matches the key from the relation. Hence 'Consumer_Profile' is in BCNF.

Bank_Details
{Consumer_ID,Account_No} -> Account_Holder_Name

{Consumer_ID,Account_No} -> IFSC_Code
{Consumer_ID,Account_No} -> UPI_ID
{Consumer_ID,Account_No} -> Credit_Card_No
{Consumer_ID,Account_No} -> Debit_Card_No

Here we can infer from the given FDs that {Consumer_ID,Account_No} is the key. It matches the key from the relation. Hence 'Bank_Details' is in BCNF.

Invoice_Details
Invoice_ID -> Total_Amount
Invoice_ID -> Taxes
Invoice_ID -> Category_Discount
Invoice_ID -> Grand_Total
Invoice_ID -> Total_Amount_Paid
Invoice_ID -> Amount_left
Invoice_ID -> Next_Installment

Here we can infer from the given FDs that Invoice_ID is the key. It matches the key from the relation. Hence 'Invoice_Details' is in BCNF.

Booking
Booking_ID -> Facility_Type
Booking_ID -> Consumer_ID
Booking_ID -> Invoice_ID
Booking_ID -> Booking_Date
Booking_ID -> No_Of_Travellers

Here we can infer from the given FDs that Booking_ID is the key. It matches the key from the relation. Hence 'Booking' is in BCNF.

Transactions
Transaction_ID -> Invoice_ID
Transaction_ID -> Transaction_Mode
Transaction_ID -> Amount
Transaction_ID -> Transaction_TimeStamp

Here we can infer from the given FDs that Transaction_ID is the key. It matches the key from the relation. Hence 'Transactions' is in BCNF.

Accommodation_Booking
Booking_ID -> Accomodation_ID
Booking_ID -> Room_Type_ID
Booking_ID -> Check_In_Date
Booking_ID -> Check_Out_Date
Booking_ID -> No_Of_Rooms

Here we can infer from the given FDs that Booking_ID is the key. It matches the key from the relation. Hence 'Accommodation_Booking' is in BCNF.

Accommodation_Add_On
Booking_ID -> Breakfast

Booking_ID -> Lunch_Or_Dinner
Booking_ID -> Lunch_And_Dinner
Booking_ID -> No_Of_Mattresses
Booking_ID -> Zero_Cancellation

Here we can infer from the given FDs that Booking_ID is the key. It matches the key from the relation. Hence 'Accommodation_Add_On' is in BCNF.

Transportation_Booking
Booking_ID -> Transportation_ID
Booking_ID -> Class_ID
Booking_ID -> Departure_Timestamp
Booking_ID -> Arrival_Timestamp
Booking_ID -> PNR

Here we can infer from the given FDs that Booking_ID is the key. It matches the key from the relation. Hence 'Transportation_Booking' is in BCNF.

Transportation_Add_On
Booking_ID -> Breakfast
Booking_ID -> Lunch
Booking_ID -> Dinner
Booking_ID -> Zero_Cancellation

Here we can infer from the given FDs that Booking_ID is the key. It matches the key from the relation. Hence 'Transportation_Add_On' is in BCNF.

Seats
Here we have no FDs, meaning all the attributes are keys. It matches the key from the relation. Hence 'Seats' is in BCNF.

Package_Booking
Booking_ID -> Package_ID
Booking_ID -> Offer_ID
Booking_ID -> Date_From
Booking_ID -> Date_To

Here we can infer from the given FDs that Booking_ID is the key. It matches the key from the relation. Hence 'Package_Booking' is in BCNF.

Package_Booking_Details

Here we have no FDs which means that all the attributes are keys. It matches the key from the relation. Hence 'Package_Booking_Details' is in BCNF.

Travellers
Traveller_ID -> First_Name
Traveller_ID -> Last_Name
Traveller_ID -> Age
Traveller_ID -> Gender
Traveller_ID -> Category

Traveller_ID -> Booking_ID

Here we can infer from the given FDs that Traveller_ID is the key. It matches the key from the relation. Hence ‘Travellers’ is in BCNF.

Cancellation

Cancellation_ID -> Booking_ID
Cancellation_ID -> Cancellation_Date
Cancellation_ID -> Cancellation_Penalty
Cancellation_ID -> Total_Refundable_Amount
Cancellation_ID -> Refund_Status

Here we can infer from the given FDs that Cancellation_ID is the key. It matches the key from the relation. Hence ‘Cancellation’ is in BCNF.