

Checking for 3NF

Pilot

<u>StaffID</u>	FirstName	LastName	PassportNo	Adress	Gender	Designation	DateJoined	AirlineTrainingDetails	AcademicEducationDetails	AircraftModel	FlyingHours	TotalFlyingHours
FD1	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑

The table **Pilot** is in 2NF and it does not have any transitive functional dependencies and all the non primary key attributes depends on the primary key. There's only one functional dependency (FD1) and it's determinant is a super key. Therefore the table **Pilot** is in 3NF.

FlightAttendant

<u>StaffID</u>	FirstName	LastName	PassportNo	Adress	Gender	Designation	DateJoined	AirlineTrainingDetails	AcademicEducationDetails	TotalFlyingHours
FD1	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑

The table **FlightAttendant** is in 2NF and it does not have any transitive functional dependencies and all the non primary key attributes depends on the primary key. There's only one functional dependency (FD1) and it's determinant is a super key. Therefore the table **FlightAttendant** is in 3NF.

Passenger

<u>PassportNo</u>	FirstName	LastName	Gender	Nationality	DOB	PassportIssueDate	PassportExpiryDate
FD1	↑	↑	↑	↑	↑	↑	↑

The table **Passenger** is in 2NF and it does not have any transitive functional dependencies and all the non primary key attributes depends on the primary key. There's only one functional dependency (FD1) and it's determinant is a super key. Therefore the table **Passenger** is in 3NF.

SpecialRequirements

<u>PassportNo</u>	RequirementDetails
FD1	↑

The table **SpecialRequirements** is in 2NF and it does not have any transitive functional dependencies and all the non primary key attributes depends on the primary key. There's only one functional dependency (FD1) and it's determinant is a super key. Therefore the table **SpecialRequirements** is in 3NF.

Minor

<u>PassportNo</u>	AccompanyPassportNumber
FD1	↑

The table **Minor** is in 2NF and it does not have any transitive functional dependencies and all the non primary key attributes depends on the primary key. There's only one functional dependency (FD1) and it's determinant is a super key. Therefore the table **Minor** is in 3NF.

Arrival

<u>LegNo</u>	ArrivalTerminalNo	ArrivalTime	BaggageBeltNo
FD1	↑	↑	↑

The table **Arrival** is in 2NF and it does not have any transitive functional dependencies and all the non primary key attributes depends on the primary key. There's only one functional dependency (FD1) and it's determinant is a super key. Therefore the table **Arrival** is in 3NF.

Departure

<u>LegNo</u>	DepartureTerminalNo	GateNo	BoardingTime	DepartureTime
FD1	↑	↑	↑	↑

The table **Departure** is in 2NF and it does not have any transitive functional dependencies and all the non primary key attributes depends on the primary key. There's only one functional dependency (FD1) and it's determinant is a super key. Therefore the table **Departure** is in 3NF.

Delayed

<u>LegNo</u>	Reason
FD1	↑

Canceled

<u>LegNo</u>	Reason
FD1	↑

The tables **Delayed** and **Canceled** are in 2NF and they do not have any transitive functional dependencies. All the non primary key attributes depends on the primary key. The tables **Delayed** and **Canceled** each has a functional dependency called FD1 and it's determinant is a super key. Therefore the table **Departure** is in 3NF.

Passenger_Contact_No

<u>PassportNo</u>	<u>ContactNo</u>
FD1	↑

The table **Passenger_Contact_No** is in 2NF and it does not have any transitive functional dependencies. The table **Passenger_Contact_No** has a functional dependency called FD1 and it's dependent is a prime attribute. Therefore the table **Passenger_Contact_No** is in 3NF.

Pilot_Contact_No

<u>StaffID</u>	<u>ContactNo</u>
FD1	↑

FlightAttendant_Contact_No

<u>StaffID</u>	<u>ContactNo</u>
FD1	↑

The tables **Pilot_Contact_No** and **FlightAttendant_Contact_No** are in 1NF and 2NF and they do not have any transitive functional dependencies. The tables **Pilot_Contact_No** and **FlightAttendant_Contact_No** each has a functional dependency called FD1 and their dependents are prime attributes. Therefore the tables **Pilot_Contact_No** and **FlightAttendant_Contact_No** are in 3NF.