

## Checking for 2NF

### Pilot

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

The table **Pilot** is in 1NF.

It has a functional dependency which is FD1 and it is a full functional dependency because all the non primary key attributes depend on the primary key completely.

The table **Pilot** does not have any partial functional dependencies. Therefore it's in 2NF.

### FlightAttendant

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

The table **FlightAttendant** is in 1NF.

It has a functional dependency which is FD1 and it is a full functional dependency because all the non primary key attributes depend on the primary key completely.

The table **FlightAttendant** does not have any partial functional dependencies. Therefore it's in 2NF.

### Passenger

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

The table **Passenger** is in 1NF.

It has a functional dependency which is FD1 and it is a full functional dependency because all the non primary key attributes depend on the primary key completely.

The table **Passenger** does not have any partial functional dependencies. Therefore it's in 2NF.

### SpecialRequirements

<u>PassportNo</u>	RequirementDetails
FD1	↑

The table **SpecialRequirements** is in 1NF.

It has a functional dependency which is FD1 and it is a full functional dependency because all the non primary key attributes depend on the primary key completely.

The table **SpecialRequirements** does not have any partial functional dependencies. Therefore it's in 2NF.

### Minor

<u>PassportNo</u>	AccompanyPassportNumber
FD1	↑

The table **Minor** is in 1NF.

It has a functional dependency which is FD1 and it is a full functional dependency because all the non primary key attributes depend on the primary key completely.

The table **Minor** does not have any partial functional dependencies. Therefore it's in 2NF.

### Arrival

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

The table **Arrival** is in 1NF.

It has a functional dependency which is FD1 and it is a full functional dependency because all the non primary key attributes depend on the primary key completely.

The table **Arrival** does not have any partial functional dependencies. Therefore it's in 2NF.

### Departure

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

The table **Departure** is in 1NF.

It has a functional dependency which is FD1 and it is a full functional dependency because all the non primary key attributes depend on the primary key completely.

The table **Departure** does not have any partial functional dependencies. Therefore it's in 2NF.

### Delayed

<u>LegNo</u>	Reason
FD1	↑

### Canceled

<u>LegNo</u>	Reason
FD1	↑

The tables **Delayed** and **Canceled** are in 1NF. They have functional dependencies FD1 in each. The functional dependencies of both tables are full functional dependencies because all the non primary key attributes of each table depend completely on the primary key of the respective table.

None of the tables have partial functional dependencies.

Therefore both tables are in 2NF.

### Passenger\_Contact\_No

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

The table **Passenger\_Contact\_No** does not have non primary key attributes. They are already in 1NF.

Therefore the table **Passenger\_Contact\_No** is in 2NF.

### 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** do not have non primary key attributes. They are already in 1NF. Therefore both tables are in 2NF.

cause