



1.3.2 Database Normalisation

1. An airline wishes to ensure that its database is normalised.

<u>FlightID</u>	FlightNumber	DestinationCode	DestinationName	DepartureDate	DepartureTime
1643	LN421	LHR	Heathrow	23/08/26	09:30
1147	MD810	MDD	Madrid	23/08/26	11:30
1727	PA615	PRS	Paris	23/08/26	1:00
1394	LN522	LHR	Heathrow	24/08/26	9:00
1232	PA125	PRS	Paris	24/08/26	10:00
1992	JF702	JFK	John F. Kennedy	24/08/26	1:30

a) Describe why the database can be considered to be in First Normal Form.

[2 marks]

- Data is atomic
- Has a primary key
- No repeating fields/data

b) Describe why the database can be considered to be in Second Normal Form.

[3 marks]

- Is in First Normal Form
- No partial key dependencies

c) Describe why the database can **not** be considered to be in Third Normal Form.

[3 marks]

- Has a non-key dependency
- DestinationName depends on DestinationCode

d) Explain how the database could be put into Third Normal Form.

[3 marks]

- Make a new table which DestinationName and DestinationCode as fields
- DestinationName becomes the primary key in this new table
- Remove the DestinationCode field from the original table but leave DestinationName as a foreign key link to the new table





2. State **two** reasons why database designs are usually normalised.

[2 marks]

- Eliminate data redundancy
- Eliminate data inconsistency

