Database 01
Exercise Sheet

Exercise 1: State the difference between a database and a database management system.

A database is a collection of tables and their relationships. A database management system is a piece of application software that is used to manage database

Exercise 2: What is a primary key?

A field in a table without any null values or repeated values

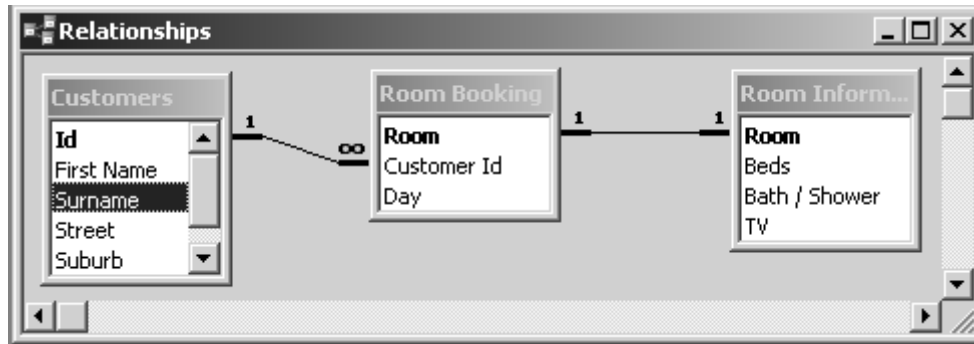*Exercise 3: What is a foreign key?*

A field in a table that is in a relationship with the primary key field of another table. A foreign key can contain null values. It can also contain repeated values, depending on how the relationship has been set up

Exercise 4: Look at the following screenshot of a table. What would be the best field(s) to use as a primary key, and why?

	Surname	First Name	Birth Date	Year Graduated	Address	Phone
	Jones	Abel	2/03/1974	1988	12 Blah Rd	555-5555
	Smith	Bert	12/06/1981	1998	178A Beach Pa	893-7654
▶				0		

The date of birth is the best field to use as the primary key since every one has a date of birth, meaning there will never be any null values in this field. Additionally, people generally have different dates of birth, making it unlikely there will be repeated values if this were the primary key field

Examine the screenshot below that shows the relationship between tables in a database:

Exercise 5: State the primary key and foreign key (if it exists) of the Customers table

Primary key: ID, no foreign key

Exercise 6: State the primary key and foreign key (if it exists) of the Room Booking table

Primary key: Room
Foreign key: Customer Id

Exercise 7: State the primary key and foreign key (if it exists) of the Room Information table

Primary key: Room
Foreign key: Room

Exercise 8: What is wrong with this database design? What simple change to a primary key would improve the database design?

The tables 'Room Booking' and 'Room Information' have a field with the same name (ie. 'Room'), which can lead to confusion. The field 'Room' should be renamed in one of the tables to resolve this problem.
(Note: this may not be the only answer for this question)