KIND POSITIVE YOURSELF

Database Design & Development: Revision Questions 2

1. Tables can be related by different types of relationships. State the type of relationship between the two tables in each case below.

   a) People and Hobbies 1

   b) Jockeys and Horses in a horse race 1

2. A hardware company uses a relational database with the four tables shown below.

Customer	Item	Order	Sale
Customer ID	*Item ID*	*Order no*	*Order no **
Customer name	*Description*	*Customer ID **	*Item ID **
Customer address	*Cost*	*Date*	*Quantity*
Customer email	*Image*		

   a) A database table may have a compound key. State what is meant by the term compound key. 1

   b) Identify a suitable compound key for the **Sale** table. 1

   c) Draw an *entity-relationship diagram* to illustrate the relationships between the four tables. 3

3. EcoCaledonia recruits employees using an online application form. Rowena completes her form and receives the feedback below:

Please correct the following information

* Indicates required fields

Title: * Miss

First name: * Rowena

Surname: * Drayton

Gender: * ○ Male ◉ Female

Email address: * rowenadrayton@schoolmail.co.uk

Mobile phone number: 077g6367324

Please enter a valid mobile phone number

Are you happy to receive information from our partner companies ☑

State the most appropriate data type used to store the value of the "receive information" check box. 1

4. BorrowABike is a company that hires bikes to customers for one day. They have a relational database with three tables as shown below.

Members	Bikes	Hire
MemberID	BikeID	MemberID*
Name	Colour	BikeID*
Address	Wheelsize	HireDate
Phone		Cost

a) Explain why a compound key is required for the Hire table. 1

b) The data dictionary for a table includes the field name. State **two** other items that would be specified in a data dictionary. 2

5. Isnaeworld also allows customers to book tickets for specific attractions within the theme park. Isnaeworld uses a relational database to store bookings for each attraction. The relational database has four tables as shown below.

Customer	Attraction Booking	Theme Park	Attraction
Customer ID	Customer ID*	Park ID	Attraction ID
First Name	Attraction ID*	Name	Park ID*
Surname	Card Number	Town	Manufacturer
Member Status	Ref Number	Postcode	Category
	Date		

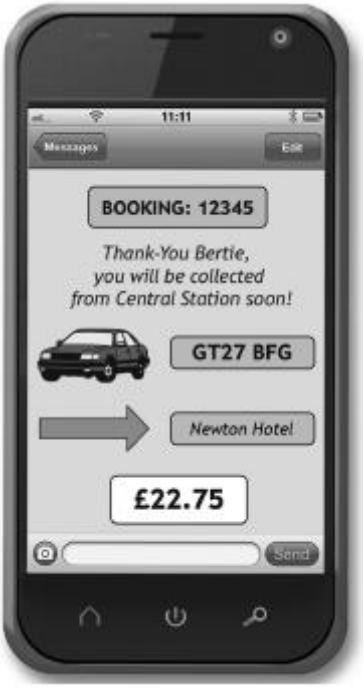
Draw an entity relationship diagram to show the relationships between the four tables. 3

6. Super Taxi allows users to book taxis from their smartphones. Super Taxi uses a relational database to keep a record of their cars, drivers, bookings and customers. Each driver can only drive one car but the same car can be used by more than one driver. The cost is set at the time of booking.

Car	Driver	Booking	Customer
Registration	Driver ID	Booking ID	Customer ID
Make	First Name	From	Known As
Model	Surname	To	Card Number
Licence Expires	Mobile	Cost	Expiry Date
	Registration*	Driver ID*	Authorisation Code
		Customer ID*	

a) Draw an entity relationship diagram to show the relationships between the four tables. 3

b) A query is used to generate the report shown below. This report is displayed on a customer's smartphone once a booking is confirmed. State the tables and fields needed to generate the report below. 3



c) State the search criteria that would identify this booking. 1

d) Write an SQL operation used to select the tables, fields and search criteria required to generate the report above.