Task 1: database design and development (part A)

Whitestar Amps design and build amplifiers for electric guitars. Below is a description of the information currently recorded for each employee and the amplifiers the employees build.

When a new employee starts working at Whitestar Amps, their first name, surname, address, contact telephone number and if they have a driving licence is recorded.

Employees build three different models of amplifier (Jazz8, Rock100 and Blues55). After each amplifier has been built and tested it is given a unique serial number which the employee enters onto a paper form. They also include the date, time of day completed, if the amplifier passed testing and their own unique employee number assigned when they were first employed.

1a Complete the missing information from the analysis of inputs below.

(2 marks)

Employee details:	Amplifier details:
first name surname address telephone number driving licence employee number	serial number date built time completed model passed test (True/False) employee number

Candidate name_____ Candidate number_____

1b Complete the data dictionary for the Amplifier entity.

(5 marks)

Entity name: Amplifier					
Attribute name	**Key**	**Type**	**Size**	**Required**	**Validation**
serialNumber	PK	text	10	Y	length = 10
dateBuilt		date		Y	
timeCompleted		time		Y	
model		text	7	Y	restricted choice: Jazz8, Rock100 and Blues55
testPassed		Boolean		Y	
employeeNumber	FK	number		Y	existing employeeNumber from Employee table

Candidate name_____ Candidate number_____

- Check your answers to part A carefully, as it cannot be returned after you hand it in.
- When you are ready, hand it in to your teacher or lecturer and collect part B.

Task 1: database design and development (part B)

1c Using the data dictionary below complete the relational database by:

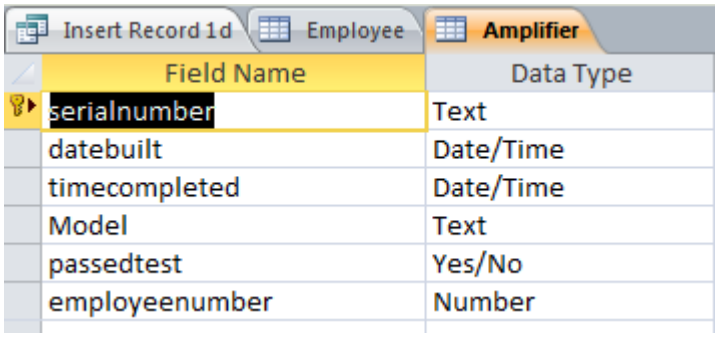
- creating a new table to store the amplifier data
- adding all required validation to fields
- creating a relationship between the two tables

(6 marks)

Your teacher or lecturer will provide you with a partially completed database file. Print evidence to show that you have completed each of the bullet points.

Entity name: Employee					
Attribute name	**Key**	**Type**	**Size**	**Required**	**Validation**
employeeNumber	PK	number		Y	range >=1000 AND <= 9999
firstName		text	15	Y	
surname		text	15	Y	
address		text	50	Y	
contactNumber		text	11	Y	length = 11
drivingLicence		Boolean		Y	
Entity: Amplifier					
Attribute name	**Key**	**Type**	**Size**	**Required**	**Validation**
serialNumber	PK	text	10	Y	length = 10
dateBuilt		date		Y	
timeCompleted		time		Y	
model		text	7	Y	restricted choice: Jazz8, Rock100 and Blues55
testPassed		Boolean		Y	
employeeNumber	FK	number		Y	existing employeeNumber from Employee table

- **creating a new table to store the amplifier data**



- **adding all required validation to fields**

Serial Number – Length check 10 characters

General | Lookup

Field Size	10
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	Len([serialnumber])=10
Validation Text	Should only be 10 characters long
Required	Yes
Allow Zero Length	Yes
Indexed	Yes (No Duplicates)
Unicode Compression	No
IME Mode	No Control
IME Sentence Mode	None
Smart Tags	

Employee Number – Lookup from employee table

General | Lookup

Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [Employee].[employeenumber] FROM Employee;
Bound Column	1
Column Count	1
Column Heads	No
Column Widths	2.54cm
List Rows	16
List Width	2.54cm
Limit To List	Yes
Allow Multiple Values	No
Allow Value List Edits	Yes
List Items Edit Form	

Model – Restricted choice

General | Lookup

Display Control	Combo Box
Row Source Type	Value List
Row Source	"Jazz8";"Rock100";"Blues55"
Bound Column	1
Column Count	1
Column Heads	No
Column Widths	2.54cm
List Rows	16
List Width	2.54cm
Limit To List	Yes
Allow Multiple Values	No
Allow Value List Edits	No

Employee Number – Range Check 1000 – 9999

General | Lookup

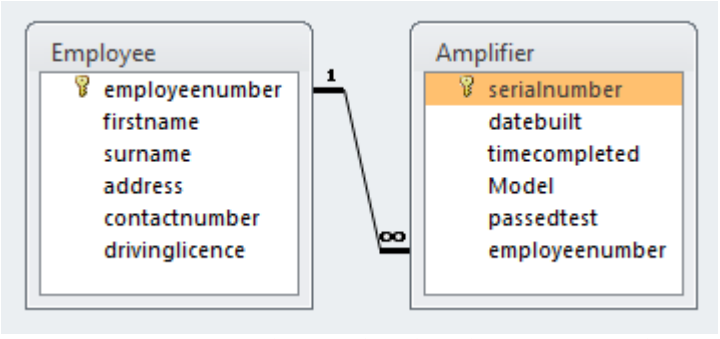
Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	>=1000 And <=9999
Validation Text	Invalid - Number is out of range
Required	Yes
Indexed	Yes (No Duplicates)
Smart Tags	
Text Align	General

Contact Number Length check 11 characters

General | Lookup

Field Size	11
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	Len([contactnumber])=11
Validation Text	Numbers should be 11 characters long
Required	Yes
Allow Zero Length	No
Indexed	No
Unicode Compression	No
IME Mode	No Control
IME Sentence Mode	None
Smart Tags	

- **creating a relationship between the two tables**



One to Many relationship has been created.

1d The personal details of a new employee are listed below.

Employee number:	1599
Name:	Jeremy May
Address:	67 Red Lane
Driving licence:	True
Contact telephone number:	07923782534

Implement the SQL statement that will add this new record to the correct table.

(2 marks)

Print evidence of both the implemented SQL statement and the Employee table (clearly showing the new record).

```
INSERT INTO Employee

VALUES ('1599', 'Jeremy', 'May', '67 Red Lane', '07923782534', '1');
```

employeenumber	firstname	surname	address	contactnumber	drivinglicenc
1012	John	Smith	20 High Street	07782456128	☑
1100	Susan	Brown	126 George Street	07991165241	☑
1116	Teressa	Jones	24 Dundas Street	01316733989	☑
1175	Martin	Daly	11 Edinburgh Road	01417676232	☑
1200	Robbie	Durkin	12 Perth Street	01316111892	☑
1599	Jeremy	May	69 Red Lane	07896374638	☑