

Bevsdatabase

by Paul Newman

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Database Design (The Book Store)

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3 Introduction

The City Book Store has been running successfully in Swansea for many years. The shop has customers from all over the Principality and several loyal English, Scottish and Irish fans. They specialise in selling classic titles and new best sellers. They try to look for first editions of many of the classics [1] .

Database Design (The Book Store)

4 The City Book Store

Contents Diagram (CD)

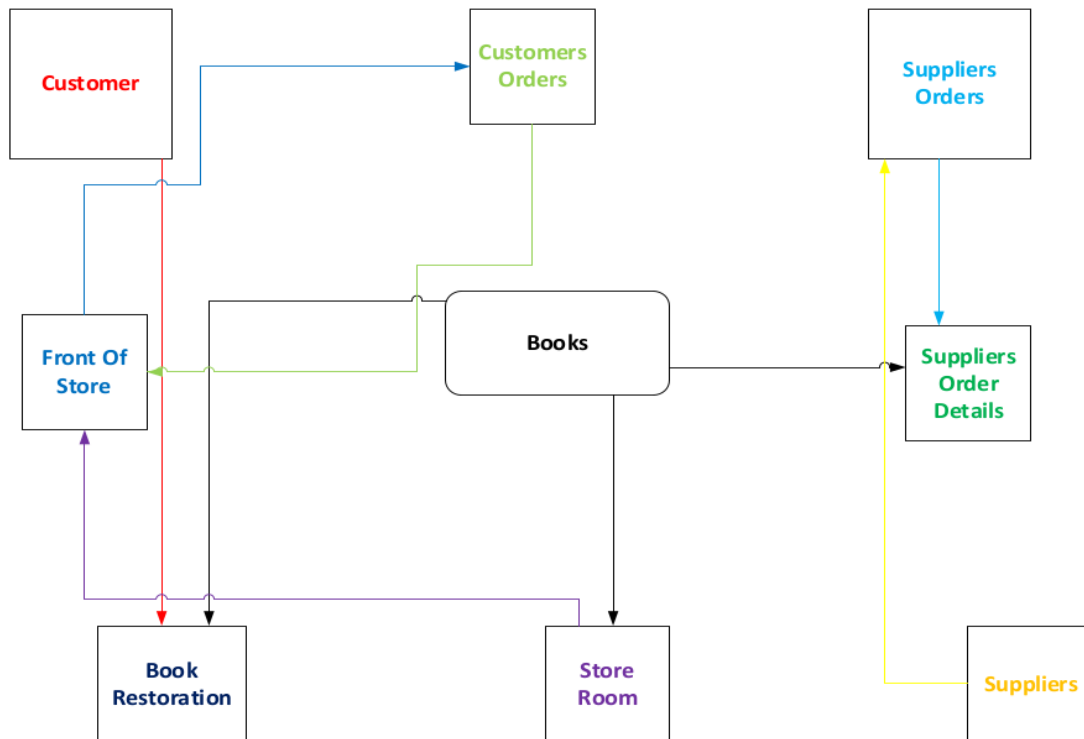


Figure 1: Contents Diagram

5 Customer

Without the Customer the business would not exist, so the customer is by far one of the most important people in business. This part of the business would have the following data types: -

- Customer (text long)
- Name (text short)
- Address (number of house and street name) (text long)
- Town (text long)
- City (text long)
- Phone Number (number)
- Bank Details (number)

A data set is a collection of related, discrete items of related data that may be accessed individually or in combination or managed as a whole entity [2]. A

data set is organized into some type of data structure. In a database, a data set might contain a collection of business data (names, salaries, contact information, sales figures, and so forth). The database itself can be considered a data set, as can bodies of data within it related to a information, such as sales data for a particular corporate department [2].

6 Front of Store

This is where City Book shop can maintain the friendly service and customer care that has gained them their reputation and help customer with a more in-depth and detailed description of the titles they seek, there are 6 basic customer needs : - [4].

- **Friendliness**

Friendliness is the most basic of all customer needs, usually associated with being greeted graciously and with warmth. Everyone wants to be acknowledged and welcomed by someone who sincerely is glad to see us. A customer should not feel they are an intrusion on the service provider's workday. Understanding and empathy. [4]

- **Fairness**

We all need to feel we are being treated fairly. Customers get very annoyed and defensive when they feel they are subject to any class distinctions. No one wants to be treated as if they fall into a certain category, left wondering if "the grass is greener on the other side" and if they only received second best. [4]

- **Control**

Control represents the customers' need to feel they have an impact on the way things turn out. Our ability to meet this need for them comes from our own willingness to say "yes" much more than we say "no." Customers don't care about policies and rules; they want to deal with us in all our reasonableness. [4]

- **Options and alternatives**

Customers need to feel that other avenues are available to getting what they want accomplished. They realize that they may be charting virgin territory, and they depend on us to be "in the know" and provide them with the "inside scoop." They get upset when they feel they have spun their wheels getting something done, and we knew all along a better way, but never suggested. [4]

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- **Information**

Customers need to be educated and informed about our products and services, and they do not want us leaving anything out! They do not want to waste precious time doing homework on their own – they look to us to be their walking, talking, information central. [4]

7 Customer Order

This is the ordering system which would be part of the database system, this would order in customer's books and supplies for the company as well such as whatever the department would need i.e. pen, pencils, printer paper, etc.

8 Suppliers Orders

The Suppliers order would be highly connected with the finance department this is the part of an Organisation that manages its money. The business functions of a finance department typically include planning, organising, auditing, accounting for and controlling its company's finances. The finance department also usually produces the company's financial statements the finance department will cover: - [5]

- Treasury
- Working Capital Management
- Strategic Planning
- Financial Planning
- Financial Analysis
- Tax
- Financial Reporting
- Financial Control
- Bookkeeping
- Payables
- Receivables

9 Storeroom

The storage room is a place for keeping temporarily stock of a businesses or individuals can keep their belongings safe and dry. Typically, the Storeroom would have a system that would have: -

- Stock No.
- Book No.
- Quantity

Database Design (The Book Store)

- Sales Price

10 Suppliers

This part of the business is represented as the multiple suppliers of books to the store from across the world, local book stores for the more popular modern type books the more far afield for the harder to get or 1st and 2nd editions of more rear books, They would typically have the following : -

- Supplier ID
- Bank Details
- Shop Address
- Book Title
- Date Time
- Cost

11 Book Store System (Books)

A database (DB), in the most general sense, is an organised collection of data. More specifically, a database is an electronic system that allows data to be easily accessed, manipulated, and updated. In other words, a database is used by an organization as a method of storing, managing, and retrieving information [3]. This is the Database built for the day to day running of the book store, from the older pen and paper that City Book store used now out of date for the electronic age, to the now up to date real time electronic database, which can be accessed either in store or via a customer's home or phone.

12 Book Restoration

In this department Book Restoration often includes paper repair, resewing, reattaching loose boards, and or filling in missing materials. The job is deemed successful to the extent that the completed book is structurally secure and able to be handled safely, and the repairs are discrete. [6]

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13 Suppliers Order Details

This Department is the Suppliers order ID, book No. and quantity of books ordered by the City Book Store, there would be many suppliers that the Book store would order from and each one would have their own ID and type of books ordered from them as each store may have set Genre e.g.

- Gothic
- Erotic
- Manga
- History
- Horror
- Craft
- Comic
- Si Fi

14 Entity Relationship Diagram (ERD)

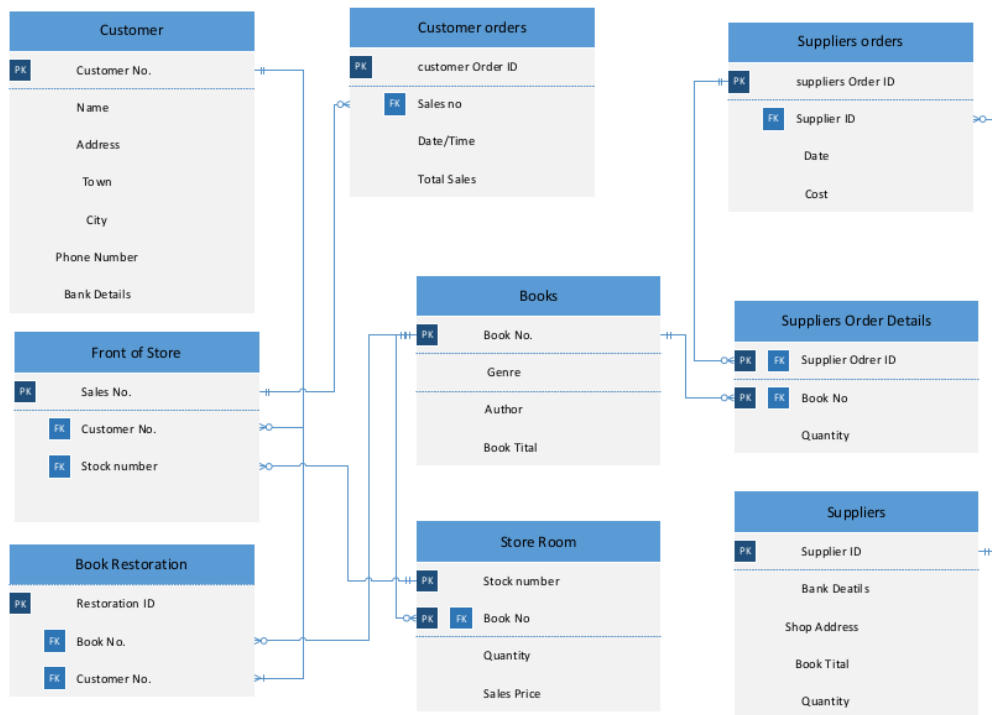


Figure 2: ERD of City Book Store

Database Design (The Book Store)

15 Entity Relationship (Access)

This is the Relationship Diagram of the City Book store database, on how it would work when running on the shop premises.

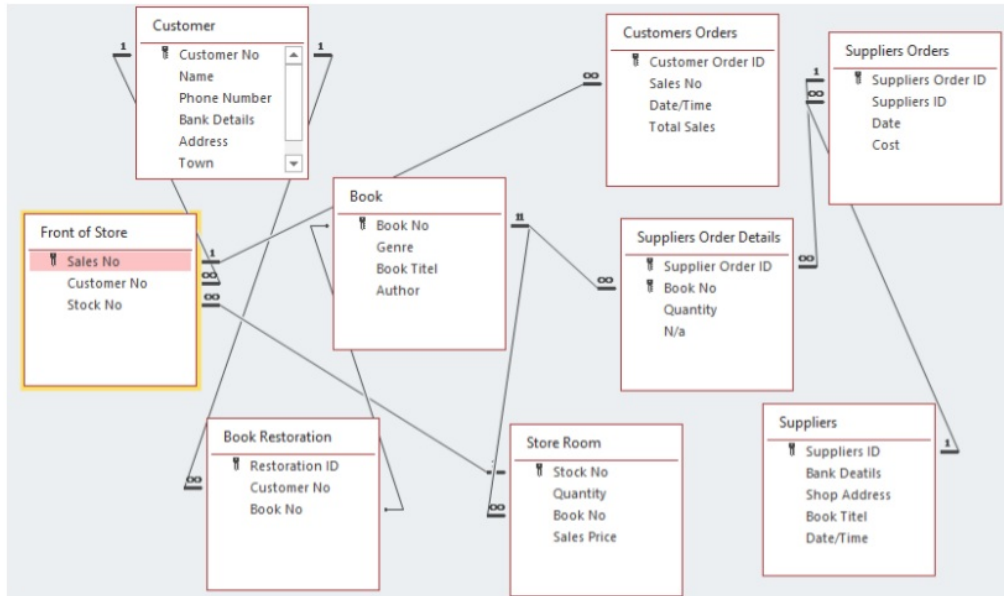


Figure 3: Relationship Diagram of City Book Store

This is just a sample of data to show what the data base would look like when up and running.

Customer No.	Name	Phone Number	Bank Details	Address	Town	City
999	Newman Paul	7796774918	9753 0283 8763 0827	17 Heol duy Sant	Bridgend	Cardiff
980	Risser Marie		0 5873 9720 9372 0986	23 Rail Way Trec	Ogmore Vale	Cardiff
110	Newman Nikita	1656725454	0092 8761 2973 0000	15 Ffordd Proidy	Sarn	Cardiff
666	Williams Neo	874632450	7742 0087 8762 0863	93 Matrix Rd	Matrix	Swansea
0			0			

Figure4: Sample of Data for the database

Here is a sample of how the book would look like in the Database.

Book No	Genre	Book Titel	Author
243	horror	Jaws	Peter Benchley
6730	history	Battle of Britain	James Holland
0			

[7] [8]

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Figure 5: test data for books system

This is the Book Restoration page showing how it would look.

Book Restoration	Book's	Customer	Customers Orders	Front of Store
Restoration ID	Book Title	Customer No	Click to Add	
87320	Jaws first ed	999		
729	How to Flow Chat for dummies!	666		
*	0	0		

Figure 6: Book Restoration data

The Storeroom page showing the quantity, cost, book No. and the instore stock No.

Store Room		Book's			
	Stock No	Quantity	Book No	Sales Price	
+	4432	2	243	58	
+	431	1	6730	23	
+					
*	0	0	0	0	

Figure 7: Storeroom inventory

This is the Suppliers data of the shop with the address.

Customers Orders	Suppliers	Suppliers Order Details	Suppliers Orders	Customer	Book Restoration
Suppliers ID	Bank Deatils	Shop Address	Book Titel	Date/Time	
7742 0087 8762 0863		City Book's Wine Street Swansea Wales	How to Flow Chat for dummies!		
*	0				

Figure 8: data in suppliers

This is where the Supplier orders the stock.

Customers Orders		Suppliers		Suppliers Order Details		Suppliers Orders	
Suppliers Order ID		Suppliers ID		Date	Cost	Click to Add	
	23074		60	29/05/2020	500		
*	0		0		0		

Figure 9: Suppliers Orders data

Customers Orders come though this table.

Customers Orders		Suppliers	Suppliers Order Details	Suppliers Orders
Customer Order ID	Sales No	Date/Time	Total Sales	Click to Add
666	23	29/05/2020	67	
*	0	0	0	

Figure 10: Total sales of this Customer

Database Design (The Book Store)

This is where the order for suppliers go.

Customers Orders	Suppliers	Suppliers
Supplier Order ID	Book No	Quantity
1	6730	2
(New)		0

Figure 11: Suppliers order details data

A command button on an Access form is to start an action or a set of actions. You can create a command button that opens another form. To make a command button perform an action, you write a macro or event procedure and attach it to the command button's On Click property. You can also embed a macro directly into the On Click property of the command button. This makes it possible to copy the command button to other forms without losing the functionality of the button. This is the creation of a button for a SQL (Structured Query Language) [9].

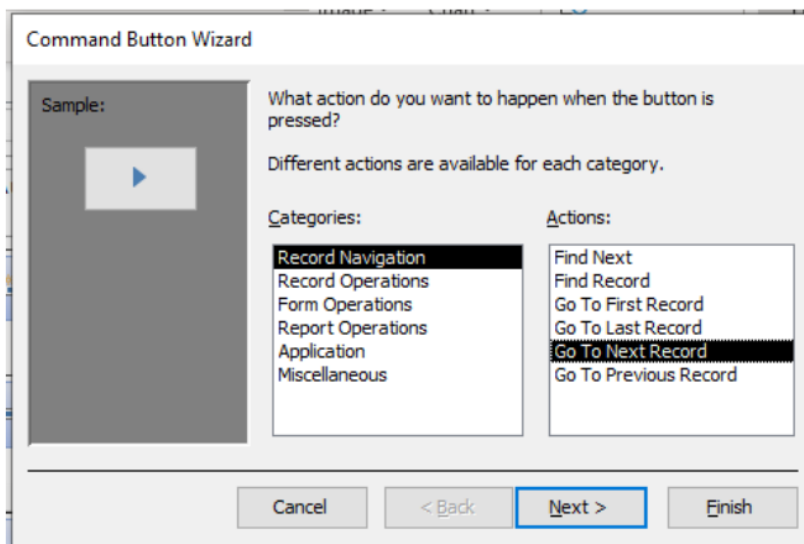


Figure 12: Creation for button

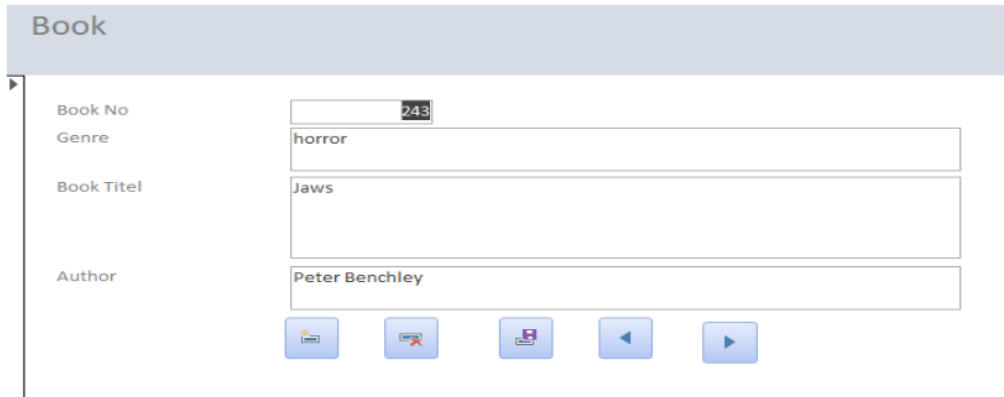
Below are the five buttons used to create the first book form for the SQL.



Figure 13: Buttons for book query

Database Design (The Book Store)

The book form query when completed.



Book

Book No 243

Genre horror

Book Title Jaws

Author Peter Benchley

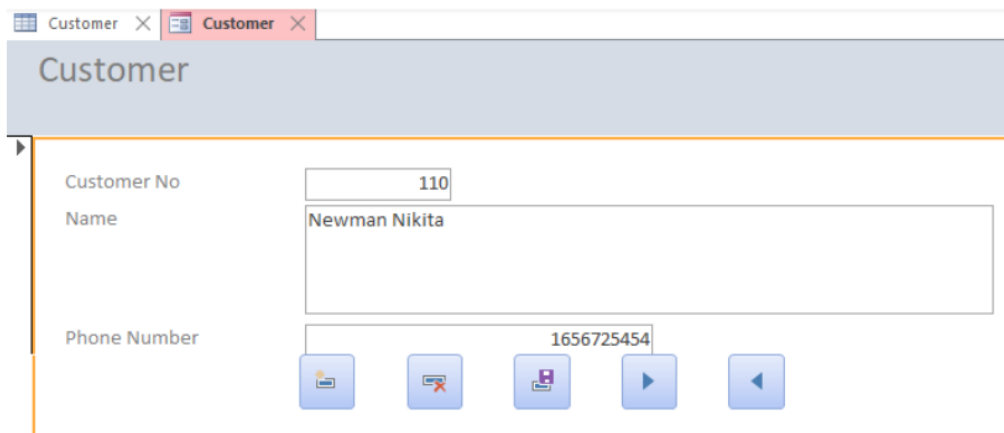
Buttons: Search, Delete, Save, Back, Forward

Figure 14: Book form query

When you want to retrieve data from a database, you ask for the data by using Structured Query Language, or SQL. SQL is a computer language that closely resembles English, but that database programs understand. Every query that you run uses SQL behind the scenes.

Understanding how SQL works can help you create better queries and can make it easier for you to understand how to fix a query that is not returning the results that you want [9].

The Customers query form.



Customer

Customer No 110

Name Newman Nikita

Phone Number 1656725454

Buttons: Search, Delete, Save, Back, Forward

Figure 15: Customer query

Making a Menu for the queries to make navigating the database clean and fast.

Database Design (The Book Store)

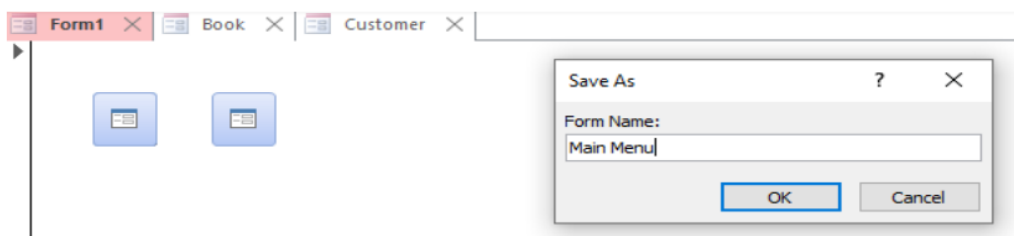


Figure 16: Main Menu creation

The customers query form with menu for ease of navigating the database.

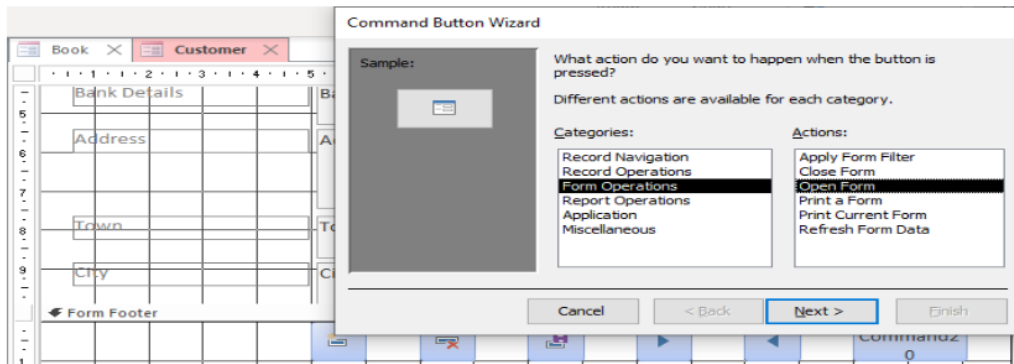


Figure 17: Main Menu for customers

A sample of a customer query with the customers name, address, customer No (ID) the book they ordered and type of book.

Book Restor	Customer.Cus	Name	Phone Number	Bank Details	Address	Town	City	Book.Book I	Genre
243	666	Williams Neo	874632450	7742 0087 8762 0863	93 Matrix Rd	Matrix	Swansea	243	horror
6730	999	Newman Paul	7796774918	9753 0283 8763 0827	17 Heol duy Sant	Bridgend	Cardiff	6730	history
*									

Figure 18: Customer query

Database Design (The Book Store)

A sample on a report of the book on the books that are currently in the storeroom with the authors and type of book.



The screenshot shows the Microsoft Access interface. On the left is the 'All Access Objects' pane with categories: Tables, Queries, Forms, and Reports. The 'Reports' category is selected, and a report named 'Book' is highlighted. The main window displays the 'Book' report, which is a table with the following data:

Book No	Genre	Author	Book Title
243	horror	Peter Benchley	Jaws
6730	history	James Holland	Battle of Britain

Figure 19: Book report on books in store

A macro in Access is a tool that allows you to automate tasks and add functionality to your forms, reports, and controls. If you add a command button to a form, you associate the button's OnClick event to a macro, and the macro contains the commands that you want the button to perform each time it is clicked [9].



Figure 20: Macro menu

16 Bibliography

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- [9] "microsoft support," microsoft , Microsoft 2020. [Online]. Available: <https://support.microsoft.com/>. [Accessed 07 05 2020].

FINAL GRADE

47 /100

GENERAL COMMENTS

Instructor

Generic Assessment Criteria Paul Newmann 47%	Marks available	Marks awarded
1. Engagement with Literature Skills		
2. Knowledge and Understanding Skills		
<i>Suitable development methods employed and justified. Using the above scenario,Functionality</i> You have provided evidence of design and produced a good relationship diagram. Your tables link together well with the correct consideration for relational integrity. You have considered the system requirements produce very good record structures within your tables.	25	15
3. Cognitive and Intellectual Skills		

<i>Provide evidence that the tables will link together in a relational database environment. For this section you should also provide evidence of the design techniques that you have used to develop the database system</i> <i>Understanding of design and SQL</i> Within Access your tables are all correctly linked and you have observed referential integrity. Correct PK and FK links and following rules of 3NF. You have not explored the use of SQL. However, you have added some appropriate test data.	20	12
4. Practical Application Skills		

Successful demonstration of software implementation. You are required to implement a database to meet the requirements, attribute field to enhance the design) Forms, Queries, Reports, Relationships, Macros Tables correctly build. Some basic queries and three forms. You have explored some of the basic functionality of Access but you need to look at this in far more detail	45	15
5. Transferable Skills for Life and Professional Practice		
All work suitable presented and referenced. You report provided appropriate documentation for your work	10	5

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