

# Unit 2 Creating Systems to Manage Information



Level 3 National in  
Information Technology

May 2023

Example Solution

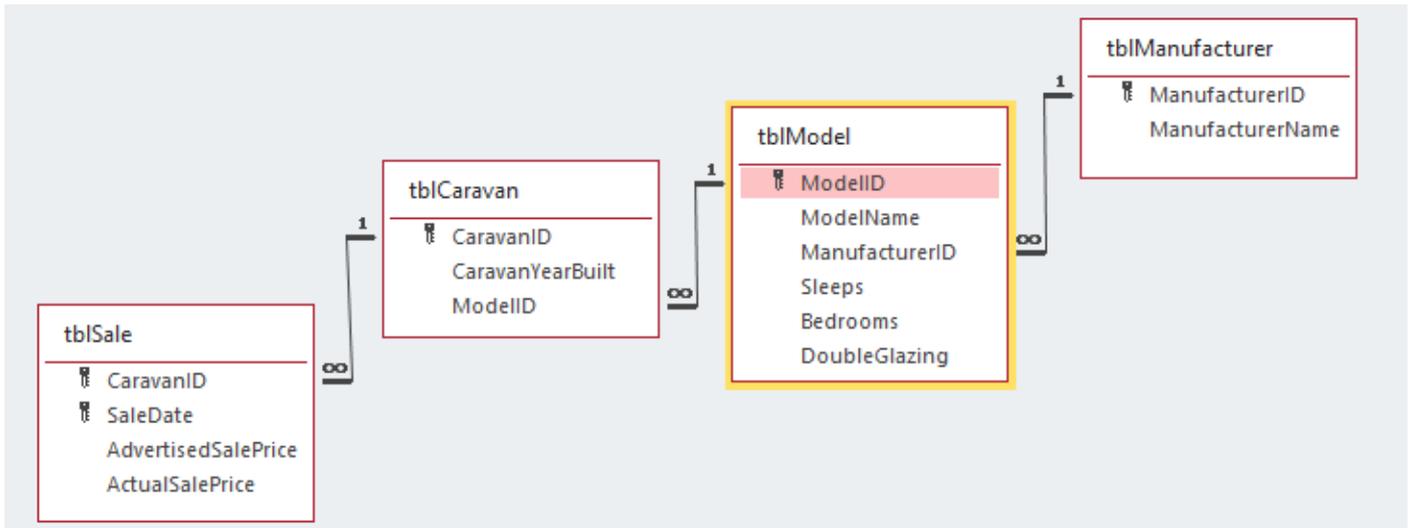


## Contents

Activity 1 – Database relationships screenprint.....	5
Activity 2 – Table structures.....	6
Activity 3 – Queries and report.....	7
Activity 4 – Structure testing.....	11
Activity 6 – Interface .....	14
Activity 7 – Interface testing .....	16

# Part A

# Activity 1 – Database relationships screenprint



# Activity 2 – Table structures

tblCaravan	
Field Name	Data Type
CaravanID	AutoNumber
CaravanYearBuilt	Number
ModelID	Number

tblManufacturer	
Field Name	Data Type
ManufacturerID	Short Text
ManufacturerName	Short Text

tblModel	
Field Name	Data Type
ModelID	AutoNumber
ModelName	Short Text
ManufacturerID	Short Text
Sleeps	Number
Bedrooms	Number
DoubleGlazing	Yes/No

tblSale	
Field Name	Data Type
CaravanID	Number
SaleDate	Date/Time
AdvertisedSalePrice	Currency
ActualSalePrice	Currency

## Presence check Only need one

tblManufacturer	
Field Name	Data Type
ManufacturerName	Short Text

General	
Lookup	
Field Size	25
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	Is Not Null
Validation Text	The manufacturer name must be present

tblModel	
Field Name	Data Type
ModelName	Short Text
ManufacturerID	Short Text

General	
Lookup	
Field Size	255
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	Is Not Null
Validation Text	The manufacturer ID must be present

## Value lookup or range check

tblModel	
Field Name	Data Type
Sleeps	Number
Bedrooms	Number

General	
Lookup	
Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	0
Validation Rule	Between 1 And 3
Validation Text	The number of bedrooms must be between 1 and 3

## Table lookup Any foreign key

tblModel	
Field Name	Data Type
ManufacturerID	Short Text
Sleeps	Number

General	
Lookup	
Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [tblManufacturer].[Manuf
Bound Column	1
Column Count	2
Column Heads	No
Column Widths	2.329cm;2.54cm
List Rows	16
List Width	4.868cm
Limit To List	Yes

## Format and length check

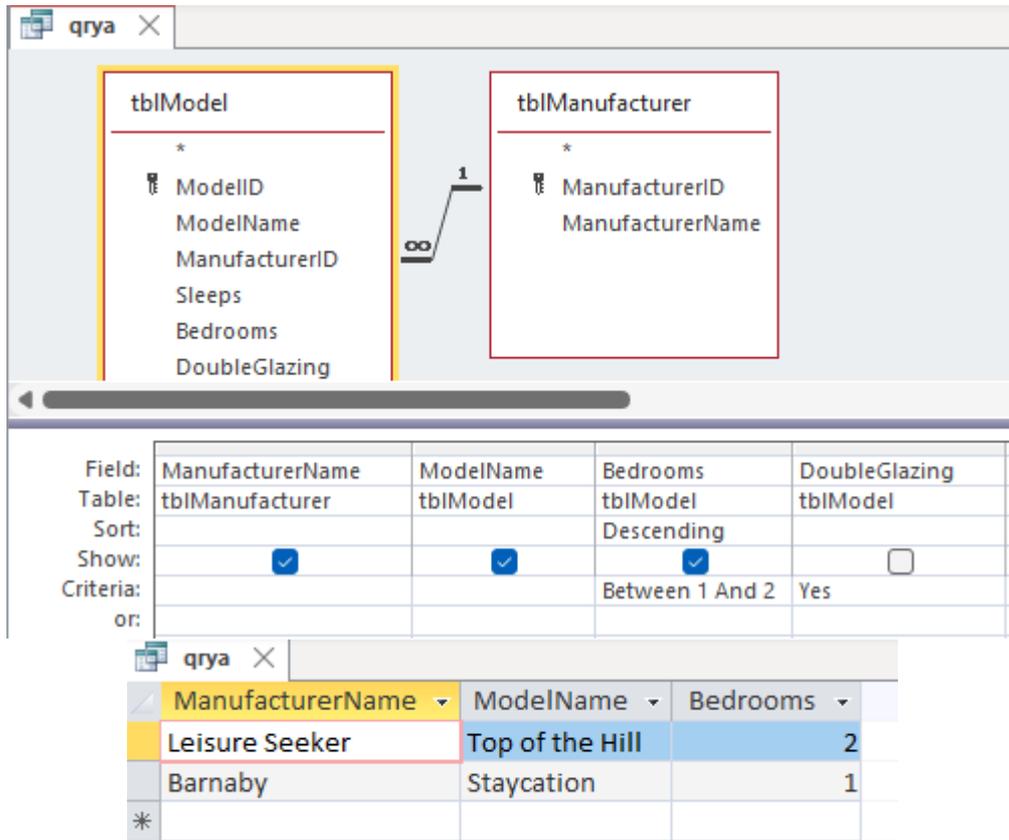
tblManufacturer	
Field Name	Data Type
ManufacturerID	Short Text
ManufacturerName	Short Text

General	
Lookup	
Field Size	3
Format	
Input Mask	> LLL

### Activity 3 – Queries and report

- (a) Create a query to display a sorted list of models that have no more than two bedrooms and have double glazing. It must display only the manufacturer name, the model name, and the number of bedrooms from highest to lowest.



The screenshot shows the Microsoft Access interface for a query named 'qrya'. It displays the table design view for 'tblModel' and 'tblManufacturer' with a 1-to-many relationship. Below this is the query grid for 'qrya' with the following fields and criteria:

Field:	ManufacturerName	ModelName	Bedrooms	DoubleGlazing
Table:	tblManufacturer	tblModel	tblModel	tblModel
Sort:			Descending	
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:			Between 1 And 2	Yes
or:				

Below the query grid is a preview of the query results:

ManufacturerName	ModelName	Bedrooms
Leisure Seeker	Top of the Hill	2
Barnaby	Staycation	1
*		

(b) Each caravan sale is given a rating.

If the actual sale price is more than £500 below the advertised sale price then the rating is Poor, otherwise the rating is Good.

Create a query to display the rating for caravan sales where there is a difference between the advertised sale price and the actual sale price.

Calculate:

- the difference between the advertised sale price and the actual sale price
- the rating.

Display:

- the caravan ID
- the advertised sale price
- the actual sale price
- the difference between the advertised sale price and the actual sale price
- the rating

The screenshot shows the Microsoft Access interface for a query named 'qryb'. It displays the table design view and the resulting data view.

**Table Design View:**

Field	Table	Total	Sort	Show	Criteria	or:
CaravanID	tblCaravan	Group By		<input checked="" type="checkbox"/>		
AdvertisedSalePrice	tblSale	Group By		<input checked="" type="checkbox"/>		
ActualSalePrice	tblSale	Group By		<input checked="" type="checkbox"/>		
Difference: [AdvertisedSalePrice]-[ActualSalePrice]		Group By		<input checked="" type="checkbox"/>	>0	
Rating: IIf([Difference]>500,"Poor","Good")		Expression		<input checked="" type="checkbox"/>		

**Data View:**

CaravanID	AdvertisedSalePrice	ActualSalePrice	Difference	Rating
1	£28,000.00	£26,500.00	£1,500.00	Poor
3	£24,000.00	£23,500.00	£500.00	Good
4	£30,000.00	£29,500.00	£500.00	Good

(c) Create a report that shows a list of models.

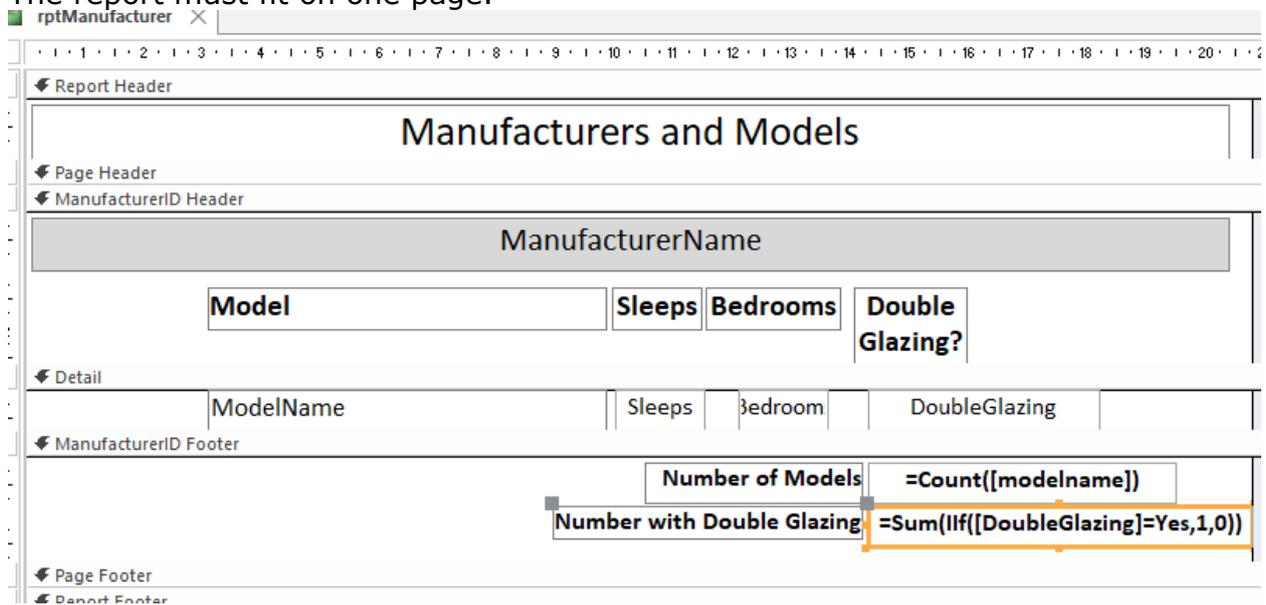
For each manufacturer, calculate:

- the total number of models
- the total number of models that have double glazing.

Display:

- a suitable report title
- the manufacturer name
- the model name
- the number of people the model sleeps
- the number of bedrooms
- whether the model has double glazing or not
- the total number of models for each manufacturer
- the total number of models that have double glazing.

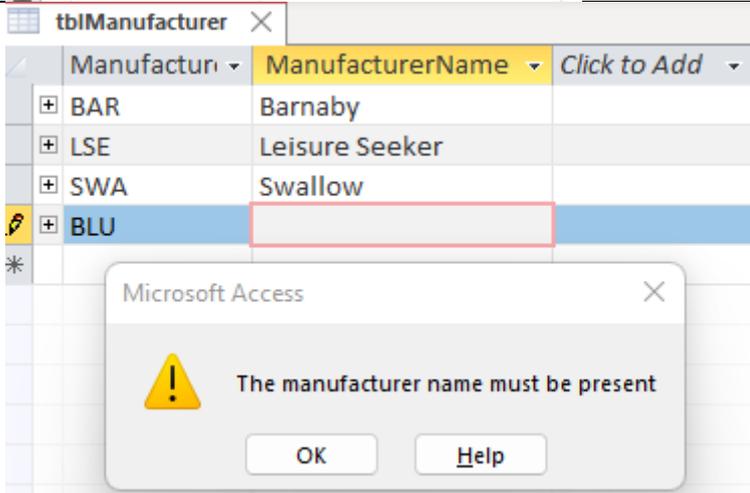
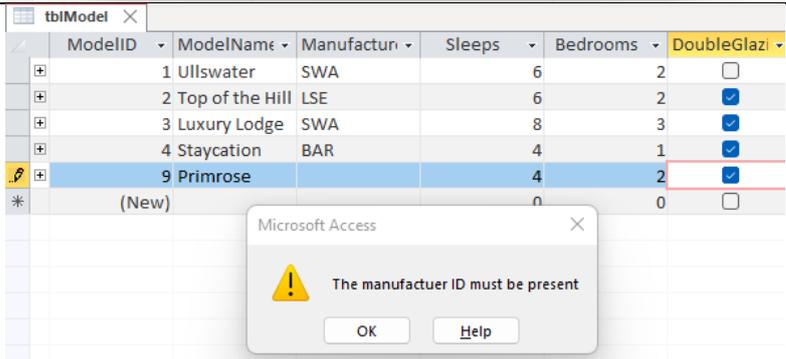
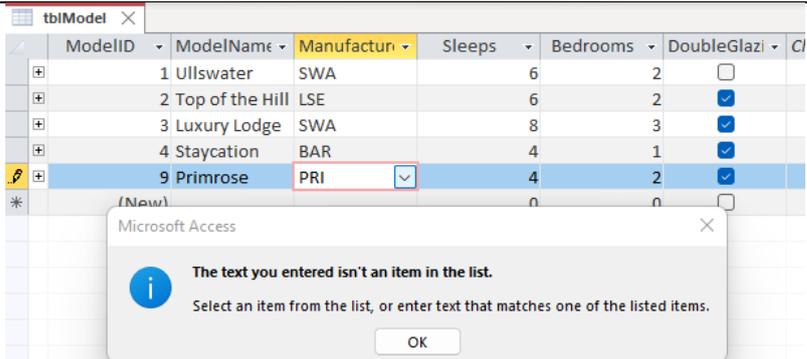
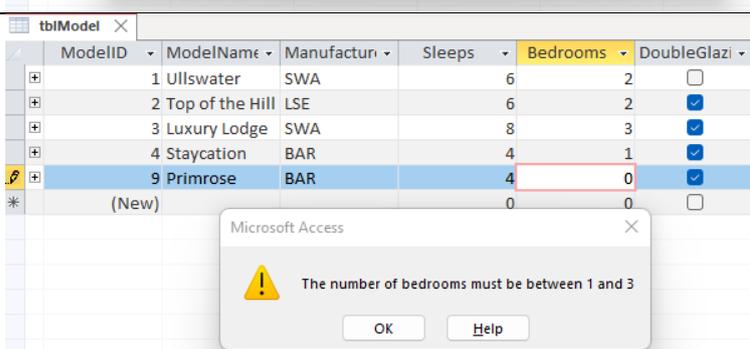
The report must fit on one page.

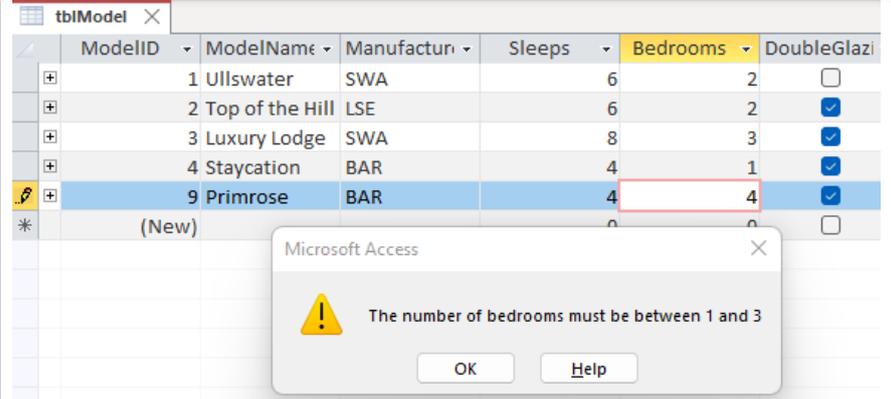


- (d) PDF (**NOTE:** The report is for illustration purposes only. There needs to be a pdf copy of the database report.)

Manufacturers and Models			
<b>Barnaby</b>			
<b>Model</b>	<b>Sleeps</b>	<b>Bedrooms</b>	<b>Double Glazing?</b>
Staycation	4	1	Yes
	<b>Number of Models</b>		<b>1</b>
	<b>Number with Double Glazing</b>		<b>1</b>
<b>Leisure Seeker</b>			
<b>Model</b>	<b>Sleeps</b>	<b>Bedrooms</b>	<b>Double Glazing?</b>
Top of the Hill	6	2	Yes
	<b>Number of Models</b>		<b>1</b>
	<b>Number with Double Glazing</b>		<b>1</b>
<b>Swallow</b>			
<b>Model</b>	<b>Sleeps</b>	<b>Bedrooms</b>	<b>Double Glazing?</b>
Luxury Lodge	8	3	Yes
Ullswater	6	2	No
	<b>Number of Models</b>		<b>2</b>
	<b>Number with Double Glazing</b>		<b>1</b>

## Activity 4 – Structure testing

Test No	Test data	Expected results	Add screenprint(s) of the results of this test (and any retests) Ensure you show the test data used in the screenprint(s)
1	ManufacturerID:Blu Manufacturer Name: Bluebell	Blu to be automatically changed to uppercase	
2	ManufacturerID:BLU Manufacturer Name: Blank	Error message to be displayed saying the manufacturer name must be present	
3	ModelID: 9 ModelName: Primrose ManufacturerID: Blank Sleeps:4 Bedrooms:2 DoubleGlazing: Yes	Error message to be displayed saying the manufacturer ID must be present	
4	ModelID: 9 ModelName: Primrose ManufacturerID: pri Sleeps:4 Bedrooms:2 DoubleGlazing: Yes	Error message to be displayed saying the text you entered isn't an item in the list	
5	ModelID: 9 ModelName: Primrose ManufacturerID:BAR Sleeps:4 Bedrooms:0 DoubleGlazing: Yes	Error message to be displayed saying the number of bedrooms must be between 1 and 3	

6	ModelID: 9 ModelName: Primrose ManufacturerID:BAR Sleeps:4 Bedrooms:4 DoubleGlazing: Yes	Error message to be displayed saying the number of bedrooms must be between 1 and 3	 <p>The screenshot shows a Microsoft Access table named 'tblModel'. The table has columns: ModelID, ModelName, Manufactur, Sleeps, Bedrooms, and DoubleGlazi. The data rows are:</p> <table border="1"> <thead> <tr> <th>ModelID</th> <th>ModelName</th> <th>Manufactur</th> <th>Sleeps</th> <th>Bedrooms</th> <th>DoubleGlazi</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Ullswater</td> <td>SWA</td> <td>6</td> <td>2</td> <td><input type="checkbox"/></td> </tr> <tr> <td>2</td> <td>Top of the Hill</td> <td>LSE</td> <td>6</td> <td>2</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>3</td> <td>Luxury Lodge</td> <td>SWA</td> <td>8</td> <td>3</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>4</td> <td>Staycation</td> <td>BAR</td> <td>4</td> <td>1</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td>9</td> <td>Primrose</td> <td>BAR</td> <td>4</td> <td>4</td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td colspan="6" style="text-align: center;">(New)</td> </tr> </tbody> </table> <p>An error dialog box titled 'Microsoft Access' is displayed over the table. It contains a yellow warning triangle icon and the text: 'The number of bedrooms must be between 1 and 3'. There are 'OK' and 'Help' buttons at the bottom of the dialog box.</p>	ModelID	ModelName	Manufactur	Sleeps	Bedrooms	DoubleGlazi	1	Ullswater	SWA	6	2	<input type="checkbox"/>	2	Top of the Hill	LSE	6	2	<input checked="" type="checkbox"/>	3	Luxury Lodge	SWA	8	3	<input checked="" type="checkbox"/>	4	Staycation	BAR	4	1	<input checked="" type="checkbox"/>	9	Primrose	BAR	4	4	<input checked="" type="checkbox"/>	(New)					
ModelID	ModelName	Manufactur	Sleeps	Bedrooms	DoubleGlazi																																								
1	Ullswater	SWA	6	2	<input type="checkbox"/>																																								
2	Top of the Hill	LSE	6	2	<input checked="" type="checkbox"/>																																								
3	Luxury Lodge	SWA	8	3	<input checked="" type="checkbox"/>																																								
4	Staycation	BAR	4	1	<input checked="" type="checkbox"/>																																								
9	Primrose	BAR	4	4	<input checked="" type="checkbox"/>																																								
(New)																																													

# Part B

# Activity 6 – Interface

## Owner form

```

frmOwner  frmOwner : cmdSave : On Click
┌─ If IsNull([Surname]) Then
│   ┌─ MsgBox
│   │   Message You must enter a surname
│   │   Beep Yes
│   │   Type None
│   │   Title
│   └─ Else If IsNull([NumBarrierFobKeys]) Or [NumBarrierFobKeys]<1 Or [NumBarrierFobKeys]>3 Then
│       ┌─ MsgBox
│       │   Message The number of key fobs has to be between 1 and 3
│       │   Beep Yes
│       │   Type None
│       │   Title
│       └─ Else
│           ┌─ RunMenuCommand
│           │   Command SaveRecord
│           └─ MsgBox
│               Message The owner details have been saved
│               Beep Yes
│               Type None
│               Title
│           ┌─ GoToRecord
│           │   Object Type
│           │   Object Name
│           │   Record New
│           │   Offset
│           └─ End If
└─ End If
    
```

NumBarrierFobKeys	
Format	Data
Control Source	NumBarrierFobKeys
Row Source	1;2;3
Row Source Type	Value List
Bound Column	1
Limit To List	Yes

## Fee analysis form

### Fee Analysis

Input the increase for the basic site fee £  
 Input the new council fee £  
 Select the position.

Current Year	Next Year
2023	2024
Basic Site Fee <span style="float: right;">£2,251</span>	Enter Site Fee Increase <input style="width: 50px;" type="text"/> *
Council Fee <span style="float: right;">£255</span>	New Basic Site Fee <input style="width: 50px;" type="text"/>
	Enter Council Fee <input style="width: 50px;" type="text"/> *

Position	<input style="width: 50px;" type="text"/> *
Site Fee Adjustment %	<input style="width: 50px;" type="text"/>
New Site Fee	<input style="width: 50px;" type="text"/>
Total Fees	<input style="width: 50px;" type="text"/>

Current Year	
	=DMax("YearID","tblFee")
Basic Site Fee	=DLookup("BasicSiteFee","tblFee","YearID=" & [CurrentYear])
Council Fee	=DLookup("CouncilFee","tblFee","YearID=" & [CurrentYear])

Next Year	
	=DMax("YearID","tblFee")+1
Enter Site Fee Increase *	Unbound
New Basic Site Fee	=[current fee]+[FeeIncrease]
Enter Council Fee *	Unbound

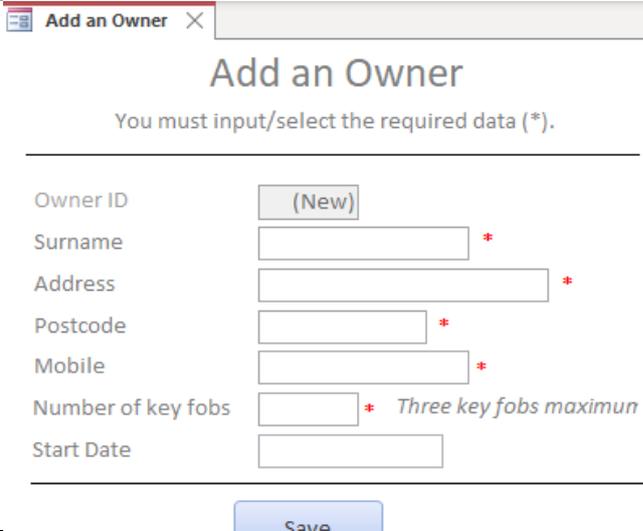
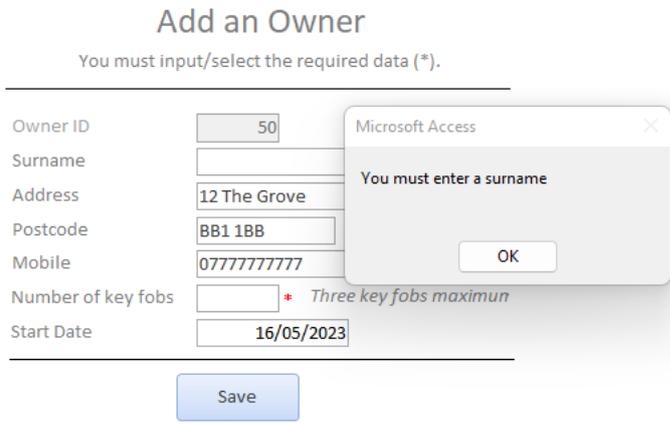
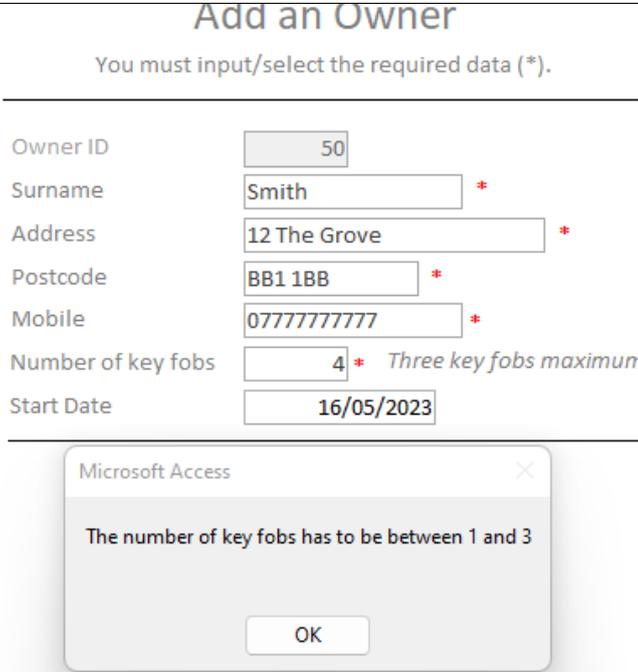
Position	Unbound <input style="width: 20px;" type="text"/> *
Site Fee Adjustment %	=[cboPosition].[column](1)
New Site Fee	=[Newfee]+([NewFee]/100*[YearlySiteFeeAdjustment])
Total Fees	=[PositionFee]+[NewCouncil]

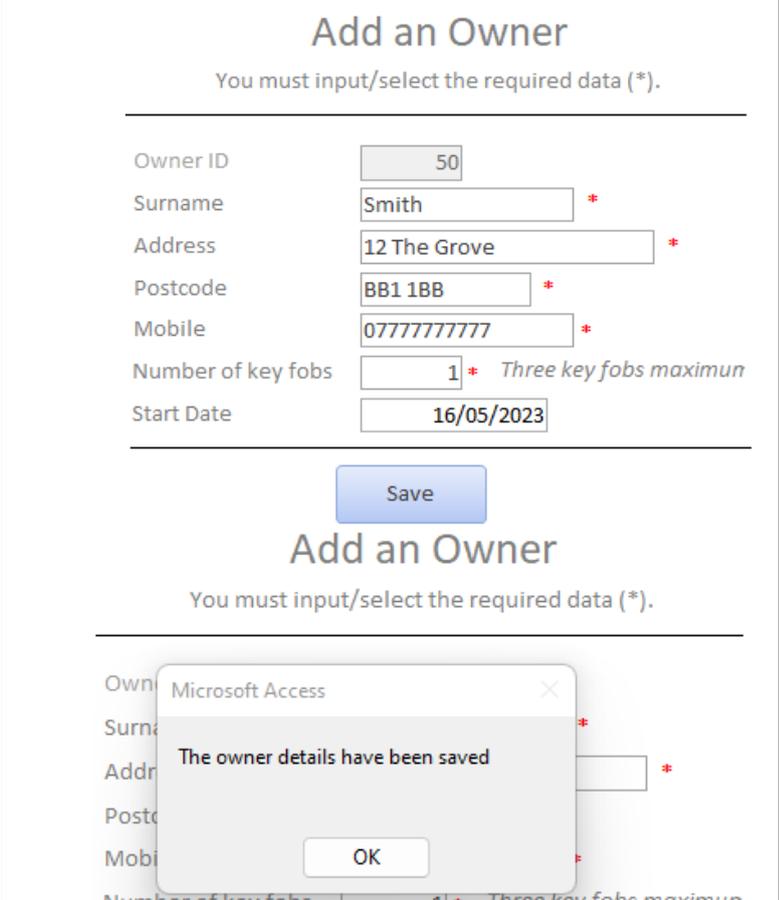
cboPosition

Format Data Event Other All

Control Source	
Row Source	SELECT tblPosition.Position, tblPosition.YearlySiteFeeAdjustment FROM tblPosition;
Row Source Type	Table/Query
Bound Column	1

## Activity 7 – Interface testing

Test No	Test data	Expected results	Add screenshot(s) of the results of this test (and any retests) Ensure you show the test data used in the screenprint(s)
1	Open form	OwnerID to say New The rest of the form to be blank	
2	OwnerID: 50 Surname: Blank Address: 12 The Grove Postcode BB1 1BB Mobile 0777777777 Number of key fobs: 1 Start Date: 16/05/2023	Error message to be displayed saying you must enter a surname	
3	OwnerID: 50 Surname: Smith Address: 12 The Grove Postcode BB1 1BB Mobile 0777777777 Number of key fobs: 4 Start Date: 16/05/2023	Error message to appear saying the number of key fobs has to be between 1 and 3	

4	<p>OwnerID: 50  Surname: Smith  Address: 12 The Grove  Postcode BB1 1BB  Mobile 07777777777  Number of key fobs: 0  Start Date: 16/05/2023</p>	<p>Error message to appear saying the number of key fobs has to be between 1 and 3</p>	 <p>The screenshot shows the 'Add an Owner' form with the following fields: Owner ID (50), Surname (Smith), Address (12 The Grove), Postcode (BB1 1BB), Mobile (07777777777), Number of key fobs (0), and Start Date (16/05/2023). A Microsoft Access dialog box is displayed in the foreground with the message: 'The number of key fobs has to be between 1 and 3'. The dialog box has an 'OK' button.</p>
5	<p>OwnerID: 50  Surname: Smith  Address: 12 The Grove  Postcode BB1 1BB  Mobile 07777777777  Number of key fobs: 1  Start Date: 16/05/2023</p>	<p>The data to be saved into table owner.   A message saying the owner details have been saved to appear   The form to be cleared</p>	 <p>The screenshot shows the 'Add an Owner' form with the following fields: Owner ID (50), Surname (Smith), Address (12 The Grove), Postcode (BB1 1BB), Mobile (07777777777), Number of key fobs (1), and Start Date (16/05/2023). A blue 'Save' button is visible below the form. Below the button, the form is shown again with a Microsoft Access dialog box in the foreground with the message: 'The owner details have been saved'. The dialog box has an 'OK' button.</p>

			<p style="text-align: center;"><b>Add an Owner</b></p> <p style="text-align: center;">You must input/select the required data (*).</p> <hr/> <p>Owner ID <input type="text" value="(New)"/></p> <p>Surname <input type="text"/> *</p> <p>Address <input type="text"/> *</p> <p>Postcode <input type="text"/> *</p> <p>Mobile <input type="text"/> *</p> <p>Number of key fobs <input type="text"/> * <i>Three key fobs maximum</i></p> <p>Start Date <input type="text"/></p> <hr/> <p style="text-align: center;"><input type="button" value="Save"/></p> <table border="1" style="font-size: small;"> <thead> <tr> <th>tblOwner</th> <th>OwnerID</th> <th>Surname</th> <th>Address</th> <th>Postcode</th> <th>Mobile</th> <th>OnSiteStartI</th> <th>NumBarrierFobKeys</th> <th>Cl</th> </tr> </thead> <tbody> <tr> <td></td> <td>50</td> <td>Smith</td> <td>12 The Grove</td> <td>BB1 1BB</td> <td>07777777777</td> <td>16/05/2023</td> <td>1</td> <td></td> </tr> <tr> <td></td> <td>45</td> <td>Black</td> <td>Copstones</td> <td>Y59 1YQ</td> <td>07700900496</td> <td>28/12/2021</td> <td>2</td> <td></td> </tr> <tr> <td></td> <td>44</td> <td>Copperfield</td> <td>Flat 42</td> <td>Y59 1YQ</td> <td>07700123456</td> <td>28/12/2021</td> <td>2</td> <td></td> </tr> <tr> <td></td> <td>43</td> <td>Blackstone</td> <td>115 Barmston Close</td> <td>Y59 1QQ</td> <td>07700911422</td> <td>28/12/2021</td> <td>2</td> <td></td> </tr> </tbody> </table>	tblOwner	OwnerID	Surname	Address	Postcode	Mobile	OnSiteStartI	NumBarrierFobKeys	Cl		50	Smith	12 The Grove	BB1 1BB	07777777777	16/05/2023	1			45	Black	Copstones	Y59 1YQ	07700900496	28/12/2021	2			44	Copperfield	Flat 42	Y59 1YQ	07700123456	28/12/2021	2			43	Blackstone	115 Barmston Close	Y59 1QQ	07700911422	28/12/2021	2	
tblOwner	OwnerID	Surname	Address	Postcode	Mobile	OnSiteStartI	NumBarrierFobKeys	Cl																																								
	50	Smith	12 The Grove	BB1 1BB	07777777777	16/05/2023	1																																									
	45	Black	Copstones	Y59 1YQ	07700900496	28/12/2021	2																																									
	44	Copperfield	Flat 42	Y59 1YQ	07700123456	28/12/2021	2																																									
	43	Blackstone	115 Barmston Close	Y59 1QQ	07700911422	28/12/2021	2																																									
6	Open form	<p>Highest year from tblFee to display as the current year: 2023</p> <p>Basic site fee for 2023 to display: £2,251</p> <p>Council fee for 2023 to display £255</p> <p>Next Year to be generated 2024</p>	<p style="text-align: center;">Select the position.</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid #ccc; padding: 5px; width: 45%;"> <p style="text-align: center;"><b>Current Year</b></p> <p style="text-align: center;"><input type="button" value="2023"/></p> <p>Basic Site Fee <input type="text" value="£2,251"/></p> <p>Council Fee <input type="text" value="£255"/></p> </div> <div style="border: 1px solid #ccc; padding: 5px; width: 45%;"> <p style="text-align: center;"><b>Next Year</b></p> <p style="text-align: center;"><input type="button" value="2024"/></p> <p>Enter Site Fee Increase <input type="text"/> *</p> <p>New Basic Site Fee <input type="text"/></p> <p>Enter Council Fee <input type="text"/> *</p> </div> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> <p>Position <input type="text"/> *</p> <p>Site Fee Adjustment % <input type="text"/></p> <p>New Site Fee <input type="text"/></p> <p>Total Fees <input type="text"/></p> </div>																																													
7	<p>Current Year 2023</p> <p>Basic Site Fee: £2251</p> <p>Council Fee: £255</p> <p>Next Year: 2024</p> <p>Site Fee Increase: £100</p> <p>New Council Fee: £300</p> <p>Position: Riverside</p>	<p>New Basic Site Fee to be generated: £2351</p> <p>Site Fee</p> <p>Adjustment for Riverside position to display: 5</p> <p>New Site fee to be generated £2469</p> <p>Total Fees to be generated £2769</p>	<p style="text-align: center;">Input the new council fee.</p> <p style="text-align: center;">Select the position.</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid #ccc; padding: 5px; width: 45%;"> <p style="text-align: center;"><b>Current Year</b></p> <p style="text-align: center;"><input type="button" value="2023"/></p> <p>Basic Site Fee <input type="text" value="£2,251"/></p> <p>Council Fee <input type="text" value="£255"/></p> </div> <div style="border: 1px solid #ccc; padding: 5px; width: 45%;"> <p style="text-align: center;"><b>Next Year</b></p> <p style="text-align: center;"><input type="button" value="2024"/></p> <p>Enter Site Fee Increase <input type="text" value="£100"/> *</p> <p>New Basic Site Fee <input type="text" value="£2,351"/></p> <p>Enter Council Fee <input type="text" value="£300"/> *</p> </div> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;"> <p>Position <input type="text" value="Riverside"/> *</p> <p>Site Fee Adjustment % <input type="text" value="5"/></p> <p>New Site Fee <input type="text" value="£2,469"/></p> <p>Total Fees <input type="text" value="£2,769"/></p> </div>																																													