

Applied Information and Communication Technology

**Unit 7: Using Database Software
January 2011
Example Solution
and
Principal Examiner
Advice and Guidance**

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The pack includes:

- **one** example answer for each question in the examination paper
- the database from which the answers are based – Version1
- another two database solutions:
 - Version2 a macro based solution that shows the same database but has used an AutoNumber solution in the customer and product table to generate the keys and different criteria in the stock query.
 - Version 3 a coded solution – there is no requirement for candidates to learn how to code but some centres adopt this approach. It is fine as long as candidates clearly show the evidence the examination paper asks for.

Please note there were many different ways candidates could have implemented the solution and that this is in no way put forward as the best. It is purely designed to be an aid for both teachers and students completing unit 7.

Activity 1

Introduction

Activity 1 is designed to test 7.2 of the unit specification i.e. the Functional Specification. Any aspect of 7.2 can be tested in any one examination.

Part A

Activity 1 – Understanding the situation (suggested time 30 mins)

(a) Use word processing software to create a copy of this table.

Process	Input	Output
	Quantity of product Cost of product	Total cost
	Highest existing order number	"ORD"& highest existing order number +1
	Highest existing CustomerID	Highest existing CustomerID +1
	Current stock level Quantity of product ordered	New stock level

Complete the table by adding the four missing processes.

(4)

Evidence to be submitted for (a).

On one side of A4, a printout of the completed table.

In this instance candidates were tested on their ability to be able to recognise and name processes.

An Example Answer

Process	Input(s)	Output(s)
Calculate Total Cost	Quantity of product Cost of product	Total Cost
Generate New Order Number	Highest existing order number	"ORD"&highest existing order number+1
Generate New CustomerID	Highest existing CustomerID	Highest existing CustomerID +1
Reduce Stock Level	Current stock level Quantity of product ordered	New stock level

Notes

At times candidates tend to provide long winded commentaries as opposed to process descriptions. Or they repeat the input and process. For example:

Process
When the details of the customer have been entered by the user the customer ID will need to be worked out and the customer ID will need to go up by one
Current stock level -quantity of product ordered = new stock level
Quantity*Total Cost

When the details of the customer have been entered by the user the customer ID will need to be worked out and the customer ID will need to go up by one

Current stock level -quantity of product ordered = new stock level

Quantity*Total Cost

Part B

(b) A good database will minimise data entry wherever possible.

Some of the steps for adding orders are given in this table. The steps are not in the correct order.

Use word processing software to create a copy of this table.

Step	Input	Generated	Output
Select customer	X		
Add order date			
Display message			
Add total cost of order			
Select product			
Add order number			
Add quantity of product			

For each step in the process, identify whether it is an input to the system, something that is automatically generated or an output from the system by adding a cross in the appropriate cell. The first one has been done for you.

(6)

Evidence to be submitted for (b).

On one side of A4, a printout of the completed table.

An Example Answer

Step	Input	Generated	Output
Select Customer	X		
Add order date		X	
Display message			X
Add total cost of order		X	
Select product	X		
Add order number		X	
Add quantity of product	X		

Notes

This section of activity 1 was answered very well. Candidates can clearly determine what are inputs and outputs and what the system generates automatically. The scenario should have helped them identify these.

Activity 2

Introduction

Activity 2 is designed to test 7.4, 7.5 and 7.6 of the unit specification ie the Functional Specification. Any aspect of these can be tested.

Part A

Activity 2 – Structure (suggested time 2 hours)

You will need to use the data file **Customers.txt**.

This is provided in your examination area.

Study the data file.

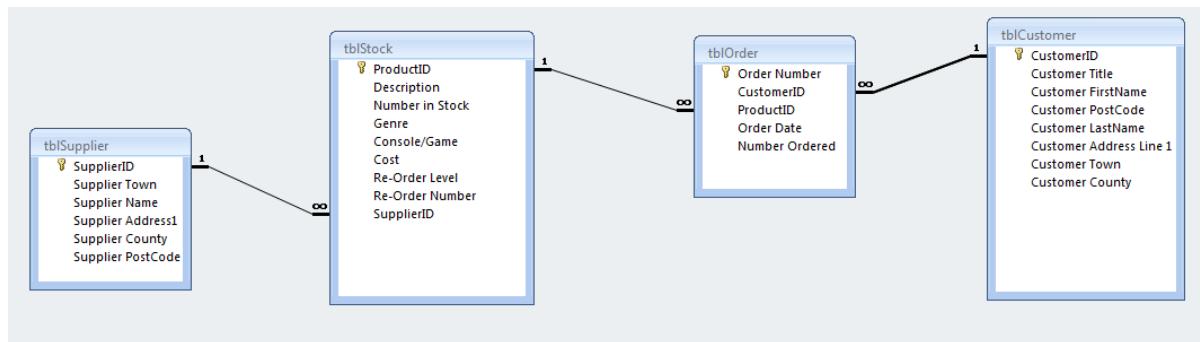
When creating your tables and relationships, take into account that the system that you are creating is a prototype. At this time, an order can only be for any quantity of a single product.

(a) Create an efficient database structure that minimises data duplication.

Screenprint your relationship diagram.

(7)

An Example Answer



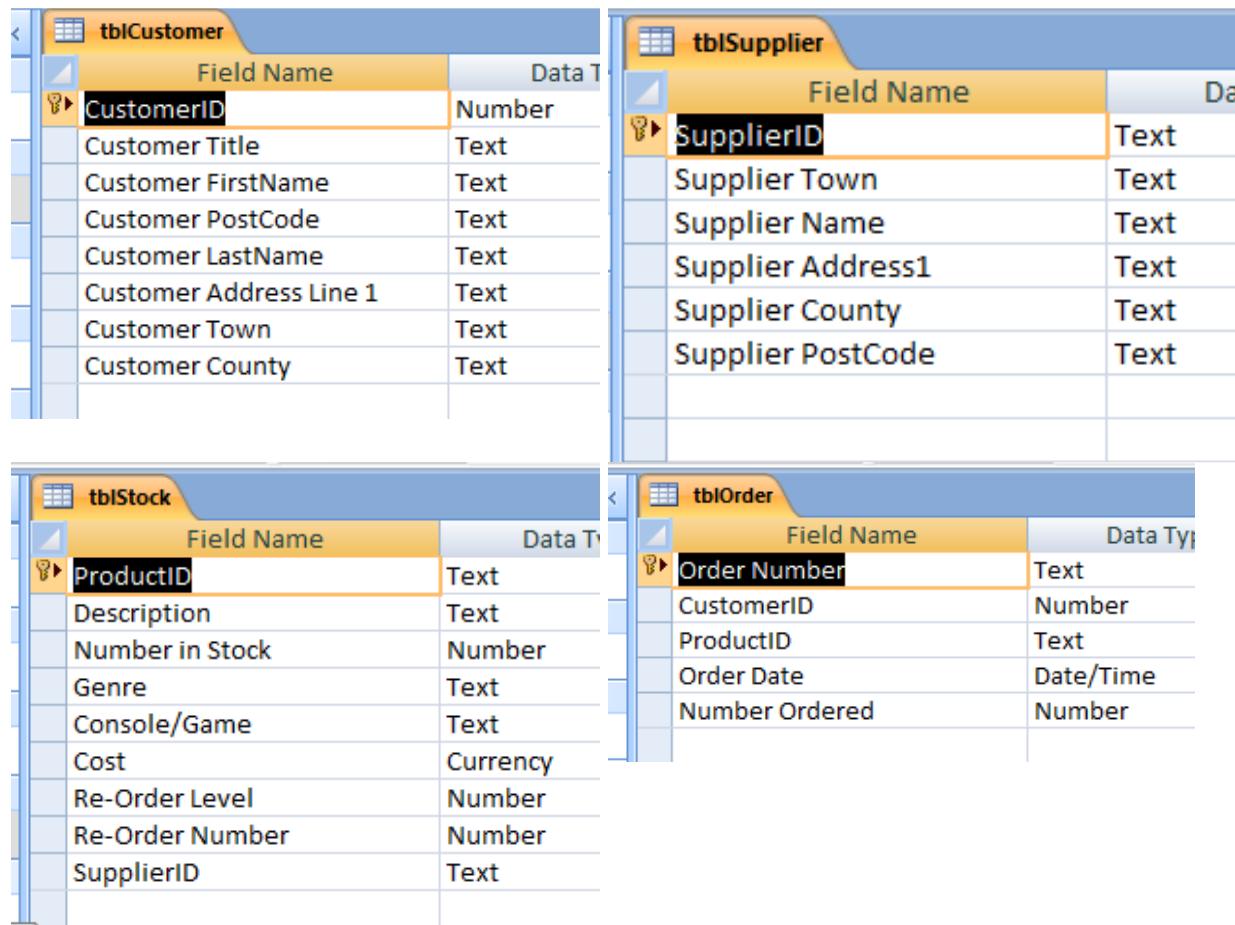
Part B

(b) Use the correct data types and key fields.

Produce screenshots in **DESIGN** view of each of your tables showing **only** the field names, data types and primary keys.

(2)

An Example Answer



tblCustomer

Field Name	Data Type
CustomerID	Number
Customer Title	Text
Customer FirstName	Text
Customer PostCode	Text
Customer LastName	Text
Customer Address Line 1	Text
Customer Town	Text
Customer County	Text

tblSupplier

Field Name	Data Type
SupplierID	Text
Supplier Town	Text
Supplier Name	Text
Supplier Address1	Text
Supplier County	Text
Supplier PostCode	Text

tblStock

Field Name	Data Type
ProductID	Text
Description	Text
Number in Stock	Number
Genre	Text
Console/Game	Text
Cost	Currency
Re-Order Level	Number
Re-Order Number	Number
SupplierID	Text

tblOrder

Field Name	Data Type
Order Number	Text
CustomerID	Number
ProductID	Text
Order Date	Date/Time
Number Ordered	Number

Part C

(c) An efficient database must include suitable validation.

Note: you can use the same field more than once if appropriate.

(i) Screenprint **ONE** example of a **Format Check** on an appropriate field. Ensure you can clearly see which field it is applied to and the format applied.

(1)

(ii) Screenprint **ONE** example of a **Range Check** on an appropriate field. Ensure you can clearly see which field it is applied to and the range specified.

(1)

(iii) Screenprint **ONE** example of a **Presence Check** on an appropriate field. Ensure you can clearly see which field it is applied to.

(1)

(iv) Screenprint **ONE** example of a **List Check** or **Table Lookup** on an appropriate field. Ensure you can clearly see which field it is applied to and the list items or row source.

(1)

An Example Answer

Format and Presence Check

Customer FirstName	Text
Customer PostCode	Text
Customer Address	
Customer Telephone	
Customer Email	
General Lookup	
Field Size	255
Format	
Input Mask	>LLO\OLL
Caption	
Default Value	
Validation Rule	Is Not Null
Validation Text	You must enter a postcode
Required	No

Range Check

Cost	Currency
Re-Order Level	Number
Re-Order Number	Number

Field Properties

General Lookup

Field Size	Long Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	
Validation Rule	Between 3 And 20
Validation Text	You have to reorder between 3 and 20 of the product
Required	No
Indexed	No
Smart Tags	

Lookup Check

Re-Order Level	Number
SupplierID	Text

Field Properties

General Lookup

Display Control	Combo Box
Row Source Type	Table/Query
Row Source	SELECT [tblSupplier].[SupplierID], [tblSupplier].[Supplier Name] FROM tblSupplier;
Bound Column	1
Column Count	2
Column Heads	No
Column Widths	1.614cm;3.493cm
List Rows	16
List Width	5.106cm
Limit To List	Yes
Allow Value List Edits	No

Part D

(d) The data from the text file should now be in the tables you have created.

Screenprint each table showing **ONLY** the first five records and the record count.
 (If the number of fields is too big to fit on the width of the page, all the fields do not have to be displayed.)

(4)

Please assemble your screenprints in the order you were asked to complete them.

(Total for Activity 2 = 17 marks)

An Example Answer

tblStock

tblStock								
ProductID	Description	Number in Stock	Genre	Console/Game	Cost	Re-Order Level	Re-Order Nbr	SupplierID
PR111	Console 1	8	WPM1	C	£199.99	3	5	SUP02
PR112	Console 2	4	DPO1	C	£249.99	3	5	SUP02
PR113	Console 3	7	JCG1	C	£299.99	3	5	SUP02
PR114	GEM4	19	Family	G	£7.99	15	10	SUP01
PR115	Robot World	17	Action	G	£9.99	15	10	SUP03

tblCustomer

tblCustomer							
CustomerID	Customer Title	Customer First Name	Customer Prefix	Customer Last Name	Customer Address	Customer Town	Customer County
20753	Mr	Jack	FE2 2AH	Glover	10 Clifton Way	Fenstead	Moreshire
20755	Ms	Danielle	FE2 3LB	Morley	4 Chestnut Dr	Fenstead	Moreshire
20756	Mr	Daniel	LB2 1WN	Reed	9 Cow Lane	Lambton	Moreshire
20757	Mr	Jack	LB1 1GY	Saunders	64 Princes Cres	Lambton	Moreshire
20759	Mr	Richard	ME2 2NS	Hanley	40 Buckingham	Meriton	Bartshire

tblSupplier

tblSupplier					
SupplierID	Supplier Town	Supplier Name	Supplier Address	Supplier County	Supplier Postcode
SUP01	Eshington	Dergs	Pethside	Millshire	ES6 9GT
SUP02	Greyfriars	Peter Ness	Sandcastle Ind	Loundshire	GE4 7RR
SUP03	Hanbury	Anwinydd	Greenup Way	Bornshire	HN2 4LA
SUP04	Ramsey	Gyrwy	Viking Way	Dockshire	RE9 5VJ

Order Numbr	CustomerID	ProductID	Order Date	Number Orc	Add Ne
ORD111	20760	PR112	27/07/2010	1	
ORD112	20760	PR117	27/07/2010	3	
ORD113	20776	PR121	27/07/2010	2	
ORD114	20767	PR122	28/07/2010	5	
ORD115	20808	PR122	28/07/2010	2	

Notes

You will see that there are no annotations what-so-ever in the answer provided. None are required in this activity and it is usually possible to answer this question using three to four sheets of paper.

Candidates can go wrong in this activity in a number of places:

1. They do not provide evidence in the order they have been asked to which can make it extremely difficult, at times impossible, for the examiner to find the correct evidence.
2. They do not make sure all of the tables etc can be seen in the relationship diagram or they have not enforced referential integrity.
3. They show how they have built tables, relationships, append queries, input masks, changed data types, created range checks etc. They are only asked to show the final evidence.
4. You cannot see the table names in the screenshots.
5. You cannot see validation etc clearly as the screenshots have been cut off or the field the validation belongs to is not in the screenshot or they have taken screenshots from table view as opposed to design view.
6. They cut off the number of records at the bottom of the tables when they crop the screenshots, they do not show at least five records or they take a screenshot before the number of records is shown.
7. They show how they have normalised or include entity relationship diagrams.
8. They do not realise that a Format check includes input masks
9. They do not ensure 'limit to list' is set to yes on combo boxes
10. They do not realise that a range can be applied to text as well as number ranges eg "C" or "G".
11. They create an input mask for postcode which does not take into account the data in the table ie it would not actually work with that data.

Activity 3

Introduction

Activity 3 is designed to test 7.3 and 7.7 of the unit specification ie the Functional Specification. Any aspect of these can be tested.

Part A

Activity 3 – Dealing with customer orders (suggested time 4 hours)

(a) An order form is needed so that existing customers can order any quantity of one product.

(i) Create an Order form for Roderic to use. He must be able to select the CustomerID and ProductID and enter the Number Ordered. (3)

(ii) The Order Date should be automatically set to the current date. (1)

(iii) Calculate the total cost of the order and display this on the form. (1)

(iv) Generate the new sequential Order Number which consists of "ORD" and a sequential number one higher than the last Order Number.

Screenprint the form in **DESIGN** view

It does not need any annotations. (3)

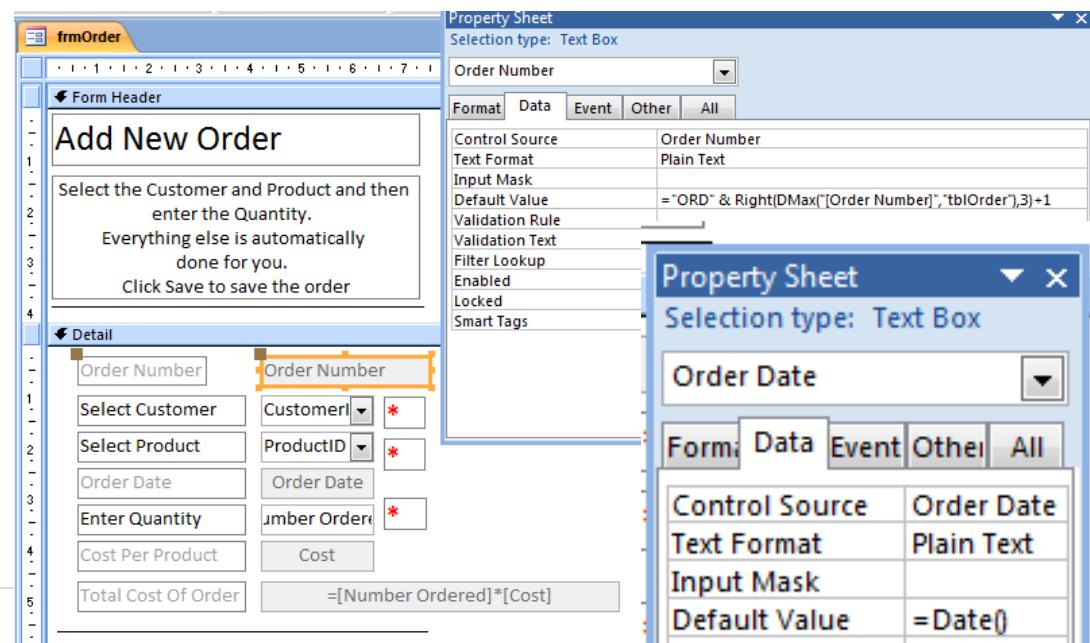
(v) Customise the form to make it easier to use.

Screenprint the form in **FORM** view.

It does not need any annotations. (2)

An Example Answer

(i)-(iv)



The screenshot shows the Microsoft Access 'frmOrder' form in Design view. The form has a title bar 'frmOrder' and a main area with a subheader 'Add New Order' and a note: 'Select the Customer and Product and then enter the Quantity. Everything else is automatically done for you. Click Save to save the order'. The 'Detail' section contains several controls: 'Order Number' (text box), 'CustomerID' (dropdown list), 'ProductID' (dropdown list), 'Order Date' (text box), 'Enter Quantity' (text box), 'Cost Per Product' (text box), 'Cost' (text box), and 'Total Cost Of Order' (text box) with the formula $=[\text{Number Ordered}]*[\text{Cost}]$.

Two Property Sheets are open on the right:

- Property Sheet for Order Number:**

Format	Data	Event	Other	All
Control Source	Order Number			
Text Format	Plain Text			
Input Mask				
Default Value	$=\text{ORD} & \text{Right}(\text{DMax}([\text{Order Number}],"tblOrder"),3)+1$			
Validation Rule				
Validation Text				
Filter Lookup				
Enabled				
Locked				
Smart Tags				
- Property Sheet for Order Date:**

Format	Data	Event	Other	All
Control Source	Order Date			
Text Format	Plain Text			
Input Mask				
Default Value	$=\text{Date}()$			

Add New Order

Select the Customer and Product and then
enter the Quantity.
Everything else is automatically
done for you.
Click Save to save the order

Order Number	<input type="text" value="ORD363"/>
Select Customer	<input type="text" value=""/> *
Select Product	<input type="text" value=""/> *
Order Date	<input type="text" value="19/02/2011"/>
Enter Quantity	<input type="text"/> *
Cost Per Product	<input type="text"/>
Total Cost Of Order	<input type="text"/>

Notes

You will see that there are no annotations what-so-ever in part A. None are required as the examiner can clearly see whether the task has been carried out correctly as long as the screenshots are clear and actually show the generation of keys/calculations etc. Please note the generation of primary keys are always a part of the examination and can be generated in a number of different ways. In this example it was decided to use right with DMAX and generate the key in the default value of the field. The data mode of the form was set to add so that it was automatically at a blank record as the form opened.

Where candidates did lose mark in the exam paper it was generally because they had not shown how they had generated keys/calculations etc.

Some candidates did set the default value of the date in the table and used a format of "ORD"000 on Order Number with a data type of AutoNumber. This was acceptable providing they showed the evidence.

Part B

(b) A query is needed that will reduce the Number in Stock by the Number Ordered for the relevant product.

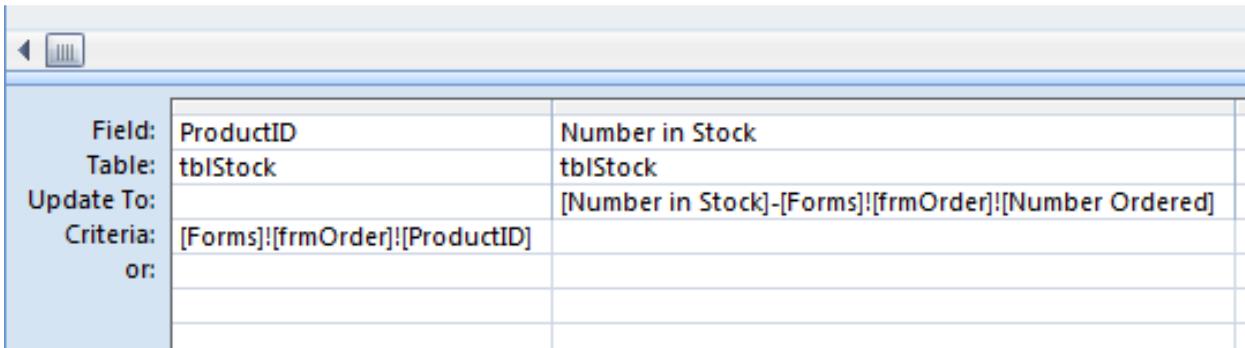
Create this query.

Screenprint the query in **DESIGN** view making sure that the criteria are fully visible.

It does not need any annotations.

(2)

An Example Answer



The screenshot shows the Microsoft Access Query Design View. The query is an update query (indicated by the 'Update' icon in the toolbar). The 'Update To' section contains the following information:

Field:	ProductID	Number in Stock
Table:	tblStock	tblStock
Update To:		[Number in Stock]-[Forms]![frmOrder]![Number Ordered]
Criteria:	[Forms]![frmOrder]![ProductID]	
or:		

Notes

You will see that there are no annotations what-so-ever in answer provided. None are required for this part of the activity.

Part C

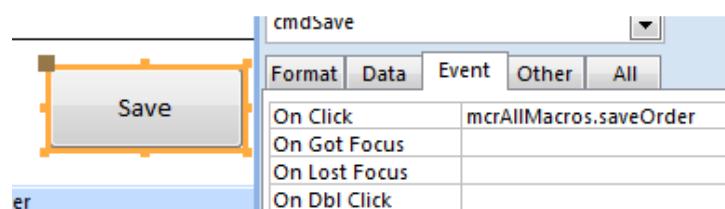
(c) An automated method of saving the order details is required.

Create an automated method of saving the order details and reducing stock levels that uses the query produced in (b). There should be a message to Roderic when the save has been carried out and the process must start by clicking a save button.

Screenprint in DESIGN view any macros, code and/or queries you have used.

Ensure that the detail can be seen in full.

(5)

An Example Answer


Macro Name	Condition	Action	Arguments
1	IsNull([CustomerID]) Or IsNull([ProductID]) Or IsNull([Number Ordered])	MsgBox	You must select the customer and product and enter the quantity required., Yes, None, Error
2	Not IsNull([CustomerID]) And Not IsNull([ProductID]) And Not IsNull([Number Ordered])	Save	Form, frmOrder
3	...	OpenQuery	qUpStockLevels, Datasheet, Edit
4	...	MsgBox	The order has been saved and stock reduced, Yes, None, Saved
5	...	GoToRecord	,, New,

1. This action in the macro checks to see if CustomerID, ProductID or Number Ordered is empty. If any of the three are then an error message is displayed and the record does not save
2. This part of the macro does the opposite of the above it checks to make sure there is data in CustomerID, ProductID and Number Ordered
3. The three dots means this checks the same as it did in number two but this time it runs the update stock query
4. Again the three dots check all is present. This time a message is displayed to Roderic telling him the order has been saved
5. Finally the macro goes to a new record ready for the next order.

The macro runs when you click the save button I showed you.

Notes

Annotations were added to clarify the macro for the examiners. Candidates can go wrong in this part of the activity by:

1. Not showing all of the detail of the macro eg cutting off conditions, cutting off actions or not showing arguments. The screenshot above shows them all without needing other screenshots and is a good way of doing it
2. Where candidates have used an append query to save the order they sometimes do not show the actual query. They are asked to screenprint any macros, code and/or queries used so we are expecting to see all of it.

Part D

(d) A form is needed to add the details of new customers.

(i) Create an Add Customer form for Roderic to use. The form should collect the customer name and address details.

(1)

(ii) Generate the new CustomerID, which is always one number higher than the last, and display this on the form.

Screenprint the form in **DESIGN** view.

It does not need any annotations.

Ensure that the detail can be seen in full.

(1)

(iii) Customise the form to make it easier to use.

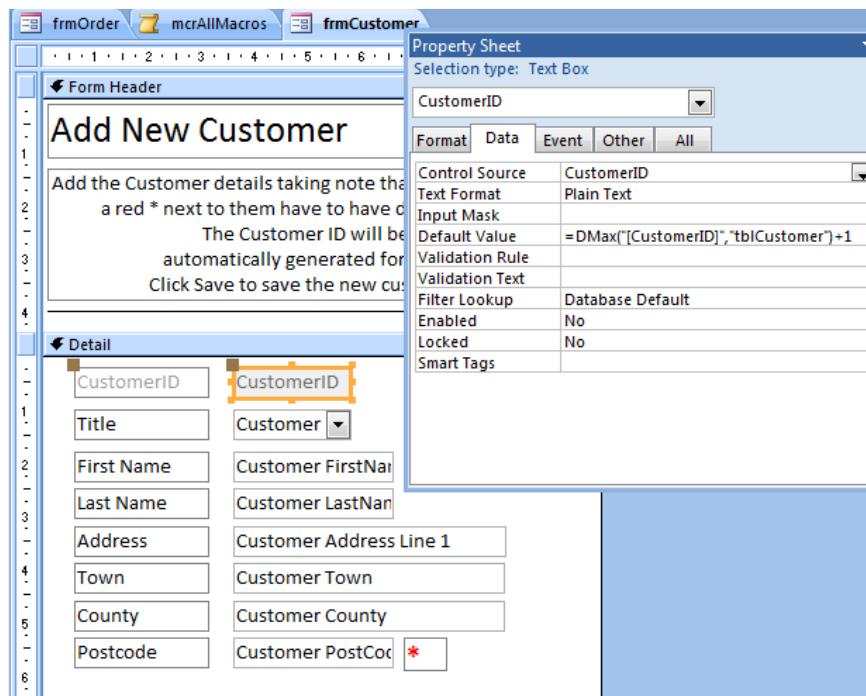
Screenprint the form in **FORM** view.

It does not need any annotations.

(2)

An Example Answer

(i)-(ii)



Property	Value
Control Source	CustomerID
Text Format	Plain Text
Input Mask	(empty)
Default Value	=DMax("CustomerID", "tblCustomer") + 1
Validation Rule	(empty)
Validation Text	(empty)
Filter Lookup	Database Default
Enabled	No
Locked	No
Smart Tags	No

(iii)

frmOrder mcrAllMacros Add New Customer

Add New Customer

Add the Customer details taking note that items that have a red * next to them have to have data in them.

The Customer ID will be automatically generated for you.

Click Save to save the new customer

CustomerID	<input type="text" value="21001"/>
Title	<input type="text"/>
First Name	<input type="text"/>
Last Name	<input type="text"/>
Address	<input type="text"/>
Town	<input type="text"/>
County	<input type="text"/>
Postcode	<input type="text"/> *

Notes

You will see that there are no annotations what-so-ever in answer provided. None are required for this part of the activity. In this example DMax was used to generate the CustomerID. It was carried out in many different ways in the exam and all that worked were rewarded providing the candidates had shown how they had generated the key.

Part E

(e) An automated method of saving the new customer record is required.

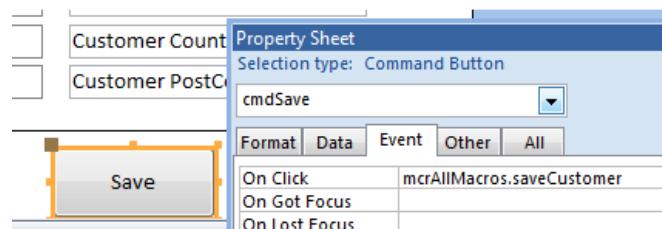
Create an automated method of saving the customer details. There should be a message to the user when the save has been carried out and the process must start by clicking a save button.

Screenprint in **DESIGN** view any macros, code and/or queries you have used.

Ensure that the detail can be seen in full.

(4)

An Example Answer



Macro Name	Condition	Action	Arguments
saveCustomer	IsNull([Customer Postcode])	MsgBox	You must enter a postcode. , Yes, None,
1			
2	Not IsNull([Customer Postcode])	Save	Form, frmCustomer
3	...	MsgBox	The Customer has been saved., Yes, None, Data Saved
4	...	GoToRecord	,, New,

1. This part of the macro checks to see if the postcode is not present. If it is not an error message is displayed
2. This part of the macro checks to see if there is a postcode. If there is the record is saved
3. If there is a postcode a message is also displayed to Roderic telling him the record has been saved
4. Finally the macro goes to a new record ready for the next customer

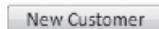
Notes

Annotations were added at this point to clarify what the macro was doing. Again, if candidates lost marks here it was generally because the macro actions could not be determined as they had been truncated etc. At times, candidates also forgot to show the append query if they had saved the customer using this method.

Part F

(f) The option to add a new customer needs to be added to the Order form.

(i) Add a button to the Order form similar to that shown:



Screenprint the updated Order form.

(1)

(ii) When the user clicks the new customer button the blank Add Customer form should open. Create a macro or use code to do this.

Screenprint the macro/code.

Ensure that the detail can be seen in full.

(2)

(iii) Attach the macro/code to the new customer button.

Screenprint the properties of the button.

Ensure that the detail can be seen in full.

(1)

(Total for Activity 3 = 29 marks)

An Example Answer

(i)

Everything else is automatically
done for you.
Click Save to save the order

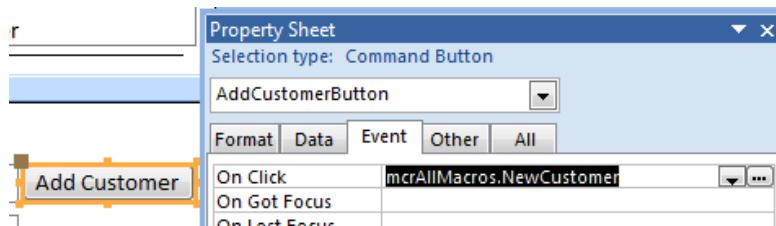
Order Number	ORD363
Select Customer	<input type="button" value="Add Customer"/> *
Select Product	*
Order Date	19/07/2011

(ii)

NewCustomer

Form Name	frmCustomer
View	Form
Filter Name	
Where Condition	
Data Mode	Add
Window Mode	Normal

(iii)



Notes

No annotations were added as none were required. Where candidates lost marks in this activity it was generally because they:

1. Put the Add Customer button on the customer form as opposed to the Order Form
2. Did not think to show the form was blank when it opened. A blank form would have been most suitable for all three forms but was tested in this part of the activity.

Activity 4

Introduction

Activity 4 is designed to test 7.8 of the unit specification Testing. Any aspect of this can be tested.

Part A

Activity 4 – Testing (suggested time 30 mins)

(a) Use the Order form and Add Customer form you created in Activity 3 to place an order for this new customer.

Mrs Marion Jones
133 Seymour Gardens
Heartfield
Moreshire
HE3 4EE

(i) Enter the data into the Add Customer form and screenprint in **FORM** view.

(1)

(ii) Save the customer details and show:

- a screenprint of the message that appears telling the user that the customer details have been saved
- a screenprint of the new record in the customer table.

(2)

Marion Jones wants to order 2 x PR118.

(iii) Screenprint the record for **PR118** in the product table clearly showing the Number in Stock before the order is entered.

(1)

(iv) Enter the order and show:

- a screenprint of the completed Order form in **FORM** view
- a screenprint of the order table showing the new order
- a screenprint of the updated record for **PR118** in the product table clearly showing the change to the number in stock.

(4)

An Example Answer

(i)

Add New Order mcrAllMacros Add New Customer

Add New Customer

Add the Customer details taking note that items that have a red * next to them have to have data in them.

The Customer ID will be automatically generated for you.

Click Save to save the new customer

CustomerID	21001
Title	Mrs
First Name	Marion
Last Name	Jones
Address	133 Seymour Gardens
Town	Heartfield
County	Moreshire
Postcode	HE3 4EE *

Save

(ii)

The Customer ID will be automatically generated for you.

Click Save to save the new customer

CustomerID	21001
Title	Mrs
First Name	Marion
Last Name	Jones
Address	133 Seymour Gardens
Town	Heartfield

Data Saved

The Customer has been saved.

OK

Add New Order mcrAllMacros Add New Customer **tblCustomer**

CustomerID	CustomerName	CustomerAddressLine1	CustomerTown	CustomerCounty
21001	Mrs Marion Jones	133 Seymour Gardens	Heartfield	Moreshire
21000	Mrs Kelvin Welch	78 North Street	Werton	Barshire

(iii)

ProductID	Description	Number in S	Genre	Console/Ga	Cost	Re-Order Le	Re-Order Nt	SupplierID
PR117	Football	22	Sport	G	£8.99	20	13	SUP03
PR118	Lotto	28	Family	G	£5.99	25	15	SUP01
PR119	Air Pilot	26	Action	G	£12.99	25	15	SUP03
PR120	Baseball	14	Sport	G	£9.99	10	5	SUP03

Add New Order

Select the Customer and Product and then enter the Quantity.
Everything else is automatically done for you.
Click Save to save the order

Order Number	ORD363	
Select Customer	21001 *	Add Customer
Select Product	PR118 *	
Order Date	19/02/2011	
Enter Quantity	2 *	
Cost Per Product	£5.99	
Total Cost Of Order	£11.98	

Save

Order Numbr	CustomerID	ProductID	Order Date	Number Orc	Add
ORD363	21001	PR118	19/02/2011	2	
ORD362	20792	PR115	24/07/2010	1	
ORD361	20955	PR116	24/09/2010	1	

ProductID	Description	Number in S	Genre	Console/Ga	Cost	Re-Order Le	Re-Order Nt	SupplierID
PR117	Football	22	Sport	G	£8.99	20	13	SUP03
PR118	Lotto	26	Family	G	£5.99	25	15	SUP01
PR119	Air Pilot	26	Action	G	£12.99	25	15	SUP03

Notes

No annotations were added as none were required. Where candidates lost marks in this activity it was generally because they:

1. Spelt the customer details incorrectly
2. Did not have matching details in the customer table compared to the form
3. Did not show the record for PR118 before the stock was updated
4. Did not include the order total on the order form
5. Did not show a record of the new order in the order table
6. Did not show the updated record for PR118

Overall this section was very well answered indeed.

Part B

(b) Enter the details of this new customer on the Add Customer form.

Mr Ahmed Al-Omran
23 The Grove
Heartfield
Moreshire

Click the save button and screenprint the message.

(1)

(Total for Activity 4 = 9 marks)

An Example Answer

Microsoft Office Access

Add New Customer

Add the Customer details taking note that items that have a red * next to them have to have data in them.
The Customer ID will be automatically generated for you.
Click Save to save the new customer

CustomerID	21002
Title	Mr
First Name	Ahmed
Last Name	Al-Omran
Address	23 The Grove
Town	Heartfield
County	Moreshire
Postcode	*

Microsoft Office Access

You must enter a postcode.

OK

Notes

No annotations were added as none were required. Where candidates lost marks in this activity it was generally because they:

1. Only showed the error message and not the data in the form
2. Covered the postcode with the error message
3. Showed the empty postcode but the message said the record had saved

The majority of candidates carried out this section correctly.

Activity 5

Introduction

Activity 5 is designed to test the report aspect of 7.3 of the unit specification.

Part A

Activity 5 – Reports (suggested time 2 hours)

Note: this activity requires you to produce a database report. The activity number, your name, candidate number and centre number should be in the page header for the report. (You need to modify your report in DESIGN view to do this.)

Producing Stock Check Reports

Stock levels decrease when customers buy products. Each product has a re-order level so Roderic knows when to order more. He wants you to produce a report to do this for him.

To do this you must:

(a) Create a query that will find the products that are on or below their re-order level.

The query should include:

- all of the supplier information
- relevant product information.

Screenprint the query in DESIGN view making sure that the criteria are fully visible.

An Example Answer

Field:	Supplier PostCode	ProductID	Description	Number in Stock	Genre
Table:	tblSupplier	tblStock	tblStock	tblStock	tblStock
Sort:					
Show:	<input checked="" type="checkbox"/>				
Criteria: or:				<=[Re-Order Level]	

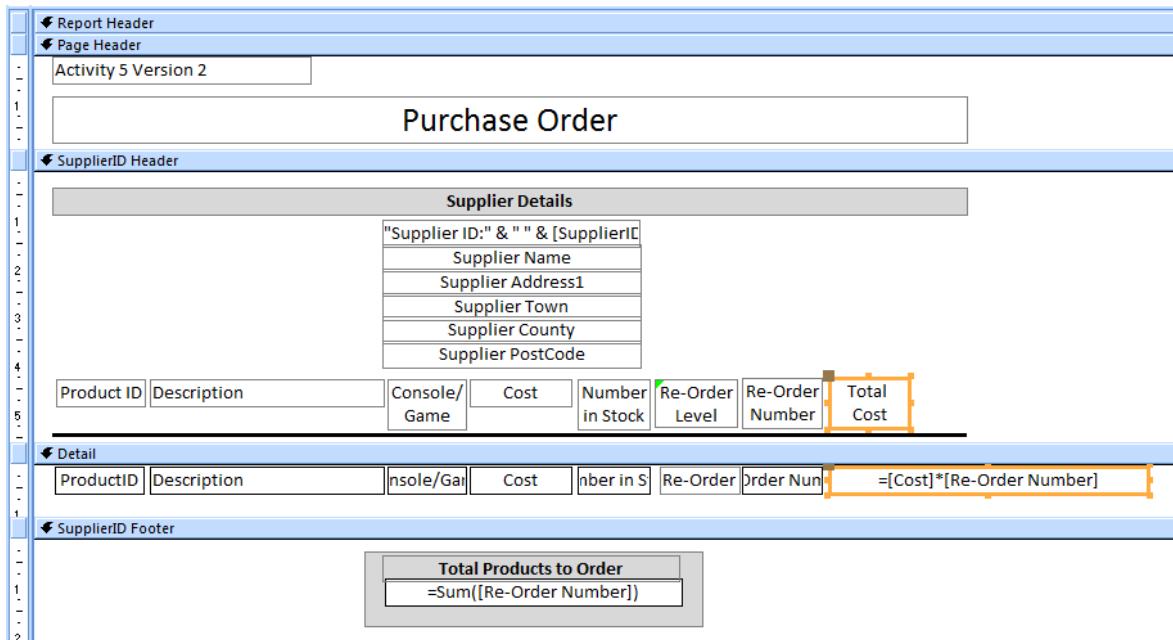
Notes

No annotations were added as none were required. There were many different criterion that could have been used to get the correct answer. This was only one of them. Where candidates lost marks in this activity it was generally because they:

1. Truncated the criteria or entered the criteria in an incorrect field
2. Only checked for less than (or greater than if criteria used on Re-Order Level)
3. Had speech marks around the field name as opposed to square brackets
4. Misspelt the field name

Part B

An Example Answer



Notes

To view the report look at rptStock in the database. No annotations were required in this activity. In this example the calculation for the total cost was generated on the report. Some candidates chose to generate it in the query which was fine providing the examiner could see the criteria clearly.

If Candidates went wrong it was generally because:

1. They put their candidate and centre details in the report header of the report so that the name only prints on the first page of the report
2. They do not put their candidates details on the report at all
3. They do not provide a design view screenshot
4. They did not put the report title in the page header – we wanted it to print on all pages not just the front page
5. They truncated the calculations
6. They did not group correctly
7. They did not use the correct calculations
8. They did not show monetary amounts as currency with two decimal places

Activity 6

Introduction

Activity 6 is designed to test the evaluation aspect of 7.8 of the unit specification.

*Activity 6 – Evaluation (suggested time 1 hour)

You need to evaluate the prototype you have produced.

In a word processed report:

- evaluate your prototype. This must be an evaluation of how well it carries out the tasks identified in the scenario, rather than a commentary of what you have done or your own performance in doing it.
- discuss your recommendations for further functionality. In the scenario you were told that your system was to be a prototype. In this section of the evaluation describe what else you think the fully functioning version should do.

Marks will be awarded for the Quality of your Written Communication (QWC).

(Total for Activity 6 = 9 marks)

An Example Answer

This answer is an evaluation put forward by a candidate for this activity.

The scenario asked me to produce a prototype for Roderic Maine's business called Raptshia, which would handle orders and customer details and produce stock checks. This will evaluate the prototype which I have produced and describe how well it fills the client's needs; it will also discuss further recommendations for the prototype.

Adding New Orders

The prototype now allows the client to add new orders to the database, which means the client will be able to keep orders tidy and easy to view. Not only this but it will reduce the chance of an order going missing or the client losing an order as each order is now clearly displayed in a table for the client to look over if necessary. Before this prototype the client had to type in all details of the order manually, now the system works out some of the information automatically, this includes; generating a new sequential order number, applying today's date, working out the cost of the product selected and the overall cost of the order. On paper this would have been done by the client which could easily produce mistakes and incorrect amounts. This is a really effective way for the client as the system now eliminates the easy mistakes and makes the whole process faster for the business. When the client has to select a product and a customer they use drop down boxes in the form, this has a positive impact on the system as the client cannot type in a customer wrong or type a wrong product in, the only mistake that could happen is the client may select the wrong thing, however with the drop down boxes it does eliminate spelling errors and

reduces the risk of mistakes which will help the client when he comes to actually doing the order. To make sure that the stock levels are correct, the form will automatically deduct the quantity that the client has inputted into the order form based on the customer's requests, and the system then subtracts this amount from the amount that is in stock. This is a complicated process to keep track on paper and again could easily be done wrong, this way will allow the client to keep track of the stock a lot easier. Once the client has saved the order, it is placed in one of four tables each of which contain relevant information, currently there are four tables which are named; tblCustomer, tblSupplier, tblProduct and tblOrder, each have information which is relevant to their name. The system has been set up to place the information from the form into the corresponding tables and fields. This helps organise the information neatly and easier which will allow the client to reduce the chance of losing track of information. Through-out the form message boxes appear and alert the client, these are either an alert/warning or information. If the client does not enter information in a particular field the form will alert the client by the use of a warning message box and they will not be able to save the order until this has been amended, if the client has entered everything correctly an information message box will alert the client that the order has been saved to the database, this way the client will know when they have done something to change the form and when they have not done something correctly. During the building process I encountered a problem, when it came to putting the Order data into the order table within the database I got an error in my append query telling me that 16 records could not be imported into the table, when I looked over the data I could see that for the orders which would not import they all had an incorrect date, this was either 31/9/2010 and 31/11/2010, there are no such dates as these months only have 30 days. To overcome this problem I had to delete out these invalid records from the database which then allowed my append query to work properly.

Adding New Customers

The client stated that he had previously been losing track of who he was selling products to and what he was selling. He also stated that he received orders over the phone, email and post and further more he said his business was growing bigger which is why he needed a system to help him organise his business. This indicates that new customers come to the business often. This means input of new customers is vital to the database as all their information is important to complete orders. This form allows the client to do this easily without having to even enter the tables containing the other customers. This way not only stops records being deleted or changed unnecessarily but also stops the client from inputting information which is incorrect. For example the customer ID is automatically sequentially generated. This makes sure that no customer has the same ID and therefore reduces mistakes. I think this is one of the best features on this form as it would be really difficult to manually work out how many customers there were to then work out a new customer ID. All fields are again checked to make sure all required information is entered accordingly, if not a warning message box will alert them, if they have entering information correctly an information box alerts the client that the customer has been saved to the database and the form resets, this is to allow the client to add customers fast and without making mistakes. It allows him to keep track of the customer information as he stated it was currently proving difficult without a system in

place. As well as this the customer postcode has extra validation in place to make sure that the format of the entered information is only that of a valid postcode. If the client was to enter an invalid format of the postcode the form will not allow it and stops the client from typing until they use a correct letter or number. I think this works really well as this will prevent the client from entering incorrect customer postcodes which would have a big impact on the business if they were incorrect as the products may not end up at the right place.

Produce Stock Checks

The stock checks are a very good way for the client to see what products they need to re-order, from which supplier, the quantity and the costs. This can be printed easily and easily read. If the client was to do this manually it could take him hours to work out all the figures, this way it is fast and simple for the client and will make the business run a lot more smoothly.

Further Functionality

A major flaw in the order form is currently it does not allow the client to select more than one product in any one order. This is unrealistic as in the real world many customers order a few products at any one time, at the moment the order form allows the client to select a quantity but not multiple products. Maybe more drop down boxes to select more than one product or even having an online shopping basket on a website which would save the order to a online database could vastly improve this.

Another flaw in the database is that there is no way of deleting old orders and customers or archiving them without having to enter the tables. In the real world the client would not be able to see the tables, queries or form designs. To overcome this problem another form could allow the user to select an order or a customer and then click a delete button, or on the other hand a main menu providing a link to archive orders and customers older than maybe 3 years. This would free up the database by reducing the size of it, and make it more organised.

On top of this customers cannot be edited easily without entering a table. This is not practical as people often change their contact details depending where they are living and their circumstances. To amend this a form could be in place to allow the client to select a customer and then edit any details relating to that customer. This would keep the orders correct and make sure that the products were being sent to correct place. In accordance with this a way of editing products and adding new products could be done in a similar way.

Currently in the prototype there is no way of easily seeing which orders go where and when or if they have been completed, this could be done by the use of another form to select an order and then select whether or not it has been completed, which would then mean the use of a report could show clearly what orders have not been completed.

Another report could show which product was the most popular, this would tell the client what product was in demand and allow them to stock up on that item to make sure they do not run out.

On top of these a main menu would be vital to navigate to the different parts of the database as in the real world the client would probably not know how to use or navigate around access. The main menu could stop the client from having access to parts of the database which are not needed, for example the queries, if a client changed something in this the database would no longer work to its full capability.

The last improvement would be security, currently no password or log in details are needed to gain access to the database, this means all customer and order information is accessible to anyone that can get onto the computer or gain a copy of the database file. If a log in form was present on opening the database this would reduce that risk and keep everything secure. Only authorised persons with log in details would be able to gain access.

Overall I am pleased with the prototype and I feel it fully meets the scenario however the client could improve it on the mentioned further functionality if he was to decide to turn this prototype into a fully working system for his business.

Notes

The evaluation is split into two distinct parts. Candidates should be revisiting the scenario for the first part of the evaluation. They should be looking at what was asked of them and whether the system they have built includes it. It has to be evaluative ie has the requirement been met and to what degree. A running commentary of what they have done to build the system is not suitable for the higher mark bands.

The second part of the evaluation requires them to think of improvements. The databases that they are asked to create are always limited in some way or form. They should be thinking of how the functionality could be extended.
