

# Pearson Edexcel GCE

## Applied Information and Communication Technology Unit 7: Using Database Software

8-26 May 2017 – Morning/Afternoon

**Assessment window: 3 weeks**

**Time: 10 hours**

Paper Reference

**6957/01**

### You must have:

Cover sheet, short treasury tag,  
Dogs\_exam.txt, Activities\_exam.txt, Logo.gif

### Instructions

- Complete your candidate details on the cover sheet provided.
- All printouts must contain your name, candidate number, centre number and activity number.
- At the end of the examination:
  - all printouts should be placed in the correct order
  - use a treasury tag to attach your printouts (**as shown**) to page 2 of the cover sheet.

### Information

- The total mark for this paper is **90**. There are **six** activities in this examination totalling 88 marks. Two further marks are allocated to Standard Ways of Working.
- The marks for **each** question, within an activity, are shown in brackets
  - use this as a guide as to how much time to spend on each question.
- Use relational database software to carry out the database activities in this examination.
- Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed
  - you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

### Advice

- Read through the Scenario carefully.
- Work through the activities in order.
- Attempt **ALL** activities.
- Label your printouts clearly as instructed.
- Printing must be undertaken within the examination time.

Turn over ►

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## Scenario

### Home From Home Boarding Kennels

Stephen Kennedy owns and runs boarding kennels, in the South West of England. Owners book their dogs into the kennels selecting a boarding package that best suits the dogs and how much they are willing to spend on a boarding visit.

All packages come with standard daily activities such as a health check. Owners can choose additional activities depending on the package.

Owners can book more than one dog on the same boarding visit. The kennels does not accept dogs under three months old.

Stephen has eight employees. One employee manages reception and the bookings for boarding visits. The other seven look after the dogs during their visit.

Supplies including wet and dry dog food, dog biscuits and treats are bought weekly.

Currently Stephen uses a paper-based system to manage the kennels. He realises this is not a very efficient or easy-to-use system. It has been agreed that you will design and build a prototype relational database system.

Stephen has thought of a range of possible tasks that could be included in the prototype.

Possible tasks are:

- registering owners and their dogs
- managing boarding visits
- managing details of employees
- ordering supplies.

The final system will be based on your evaluation of the prototype and your recommendations for further functionality.

## Instructions to Candidates

All word processed documents **MUST** have a header and a footer. The header must contain the activity number. The footer must contain your name, candidate number and centre number.

Minimum font size of 10 must be used throughout.

Screen prints must be large enough to be easily read.

All database reports must have the activity number, your name, candidate number and centre number in the page header.

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### Activity 1 – Understanding the situation (suggested time 30 minutes)

One of the possible tasks identified in the scenario is ordering supplies. This task will require a number of steps.

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

Step	Input	Generated value	Output
Select supplier	✓		

The step 'select supplier' is an input step.

Identify **five** other steps and complete the table.

You must include:

- one step that includes an input
- one step that generates a value
- one step that gives an output
- two other steps that can be input, generated or output.

### Evidence to be submitted for Activity 1

On **one** side of A4.

Your completed table.

**(Total for Activity 1 = 5 marks)**

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## Activity 2 – Structure (suggested time 2 hours)

You will need to use the data files **Dogs\_exam.txt** and **Activities\_exam.txt**

These are provided in your examination area.

Study the data files.

- (a) Create an efficient database structure that minimises data duplication. Ensure you use all and only the fields provided.

Screenprint the relationships in your database, making sure that the table names, field names and relationships can be seen clearly.

(13)

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

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

(4)

- (c) An efficient database must include suitable validation.

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

You **MUST** name the type of validation used in each case.

- (i) Screenprint in **DESIGN** view **ONE** example of a **Presence Check** on an appropriate field. Ensure you can clearly see the field it is applied to.

(1)

- (ii) Screenprint in **DESIGN** view **ONE** example of a **Table Lookup** on a foreign key. Ensure you can clearly see the field it is applied to and the list items or row source.

(1)

- (d) Import the data from the text files provided into your database.

Screenprint each table showing at **least five records**, or all records if there are fewer than five, and the **full record count**. (If the fields are too wide to fit on one page, truncated data is allowed.)

(5)

**You must assemble your screen prints in the order you were asked to complete them.**

**(Total for Activity 2 = 24 marks)**

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**Activity 3 – Dealing with adding owners and their dogs and boarding visits**  
**(suggested time 5 hours)**

- (a) The employee on reception will need to be able to add a new owner and their dog(s), add a new dog for an existing owner and add boarding visits. A menu is needed to access these tasks.

A sketch of the menu is shown.

Insert logo      Home From Home Boarding Kennels      Insert logo

Select your option

Add new owner and dog(s)

Add dog (existing owner)

Add boarding visit

Create the menu as shown in the sketch.

The logo is stored as **Logo.gif** in your examination area.

The buttons should not have any actions attached to them yet.

Screenprint the menu in **FORM** view.

It does not need any annotations.

(2)

(b) A form, with a subform, is required that will allow the employee to add a new owner and their dog(s). The same form, and subform, will be used to add a dog for an existing owner.

(i) Create the form and subform for the employee to use for data entry.

For each owner the form should collect, or display, their:

- name
- address
- postcode
- email address
- telephone number.

For each dog the subform should collect, or display, their:

- breed
- name
- gender
- age in years or in months if they are under one year old.

Screenprint the form in **FORM** view.

It does not need any annotations.

(2)

(ii) The menu button 'Add owner and dog(s)' created in 3(a) needs developing.

It should trigger the automated process of opening the form, and subform, created in 3(b)(i), ready for data entry.

Screenprint the properties of the button.

Screenprint in **DESIGN** view any macros or code you have used.

Ensure the detail can be seen in full.

(1)

(iii) An OwnerID is a sequential number one higher than the number currently used.

Generate the OwnerID.

Screenprint the form in **DESIGN** view.

It does not need any annotations.

Ensure you show how the OwnerID is generated.

(1)

(iv) A DogID is a sequential number one higher than the number currently used.

Generate the DogID.

Screenprint the form in **DESIGN** view.

It does not need any annotations.

Ensure you show how the DogID is generated.

(1)

(v) Customise the form and subform to make them easier to use.

Screenprint the form in **FORM** view.

(1)

(c) An automated method of saving a new owner record is required.

Create an automated method of saving an owner's details.

The automated method of saving should:

- ensure the relevant details are present
- save the owner's details in the relevant table.

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

Ensure the detail can be seen in full.

(2)

(d) An automated method of saving a new dog record is required.

Create an automated method of saving a dog's details.

The automated method of saving should:

- ensure the relevant details are present
- save the dog's details in the relevant table.

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

Ensure the detail can be seen in full.

(2)

(e) The menu button 'Add dog (existing owner)' needs developing. It should trigger the automated process of opening the form, and subform, created in 3(b)(i), at the first record.

Screenprint the properties of the button.

Screenprint in **DESIGN** view any macros or code you have used.

Ensure the detail can be seen in full.

(1)



(f) The form and subform, created in 3(b)(i), needs developing to include a search facility.

(i) A combo box is required alongside the OwnerID on the Owner form.

Add this feature.

Screenprint the form in **FORM** view.

(1)

(ii) The combo box should display a list of owners.

For each owner it should display:

- OwnerID
- Surname
- Forename.

Screenprint the **row source** of the combo box.

Ensure the detail can be seen in full.

(1)

(iii) The combo box should only be visible if the employee has used the 'Add dog (existing owner)' menu button.

Add this feature.

Screenprint this feature.

Ensure the detail can be seen in full.

(1)

(g) A form is required that will allow the employee to add boarding visits.

(i) Create this form.

The screenshot shows a form titled "Boarding". It contains the following fields:

- Select Owner: A dropdown menu with a downward arrow, marked with an asterisk (\*).
- Date of Arrival: A text input field, marked with an asterisk (\*).
- Number of Nights: A text input field, marked with an asterisk (\*).
- Select Package: A dropdown menu with a downward arrow, marked with an asterisk (\*).
- Cost Per Dog Per Night: A greyed-out text input field.
- Number of Dogs: A greyed-out text input field.
- Total Cost: A greyed-out text input field.

Below the "Boarding" section is a section titled "Chosen Activities" with three dropdown menus:

- Activity 1: A dropdown menu with a downward arrow, marked with an asterisk (\*).
- Activity 2: A dropdown menu with a downward arrow, marked with an asterisk (\*).
- Activity 3: A dropdown menu with a downward arrow, marked with an asterisk (\*).

At the bottom of the form is a "Save" button.

Screenprint the form in **FORM** view.

It does not need any annotations.

(1)

(ii) The owner combo box should display a list of owners.

Screenprint the **row source** of the combo box.

Ensure the detail can be seen in full.

(1)

- (iii) The 'Date of Arrival' text box needs developing.  
Owners must book at least a week in advance.  
Add this feature.  
Screenprint in **DESIGN** view any macros or code you have used.  
Ensure the detail can be seen in full. (1)
- (iv) The 'Number of Nights' text box needs developing.  
The minimum stay is two nights.  
Add this feature.  
Screenprint in **DESIGN** view any macros or code you have used.  
Ensure the detail can be seen in full. (1)
- (v) The package combo box should display a list of the packages.  
Screenprint the **row source** of the combo box.  
Ensure the detail can be seen in full. (1)
- (vi) Each of the activity combo boxes should display a list of the activities.  
Screenprint the **row source** of one of the three combo boxes.  
Ensure the detail can be seen in full. (1)
- (vii) When an owner has been selected, the 'Number of Dogs' text box must update to show the number of dogs they have.  
Add this feature.  
Screenprint in **DESIGN** view any macros, code and/or queries you have used.  
Ensure the detail can be seen in full. (1)
- (viii) When a package has been selected, the 'Cost Per Dog Per Night' text box must update to show the cost per night per dog for that package.  
Add this feature.  
Screenprint in **DESIGN** view any macros, code and/or queries you have used.  
Ensure the detail can be seen in full. (2)

(ix) When a package has been selected, the correct number of activity text boxes should be displayed.

Add this feature.

Screenprint in **DESIGN** view any macros or code you have used.

Ensure the detail can be seen in full.

(2)

(x) When the 'Number of Nights' has been input the 'Total Cost' text box should display the total cost for the boarding visit.

Add this feature.

Screenprint in **DESIGN** view any macros or code you have used.

Ensure the detail can be seen in full.

(1)

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**(Total for Activity 3 = 28 marks)**

#### Activity 4 – Testing (suggested time 30 minutes)

(a) Using the menu you created in Activity 3, click the 'Add new owner and dog(s)' button.

(i) Produce a screen print of the form that appears.

(1)

(ii) Enter the details of this new owner on the form that appears.

Surname: Meek

Forename: Gillian

Address: 12 The Grove

Postcode: BB3 7SX

Tel No: (5121) 4450000

Email: Gillian.Meek@Lineline.org

Enter the details of these dogs on the subform.

BreedID: 16

Dog name: Sammy

Gender: Dog

Age in years: 5

BreedID: 32

Dog name: Saul

Gender: Dog

Age in years: 7

Produce:

- a screen print in **FORM** view showing the form with the test data
- a screen print of the relevant tables showing the new records.

(1)

(b) Using the menu you created in Activity 3, click the 'Add new owner and dog(s)' button.

Enter the details of this owner on the form that appears.

Surname: Briggs  
Forename: Janet  
Address: 19 Horsham Avenue  
Tel No: (5121) 4450011  
Email: Janet.Briggs@Lipeline.org

Enter the details of this dog on the subform.

BreedID: 3  
Dog name: Suzie  
Gender: Bitch  
Age in months: 3

Produce a screen print in **FORM** view showing the form with the test data and the message that appears when the test data is submitted.

(1)

(c) Using the menu you created in Activity 3, click the 'Add new owner and dog(s)' button.

Enter the details of this owner on the form that appears.

Surname: Taylor  
Forename: Claire  
Address: 235 Washington Way  
Postcode: BB1 1XX  
Tel No: (5121) 4460001  
Email: Claire.Taylor@Lipeline.org

Enter the details of this dog on the subform.

BreedID: 3  
Dog name: Lucy  
Gender: Bitch  
Age in months: 3  
Age in years: 7

Produce a screen print in **FORM** view showing the form with the test data and the message that appears when the test data is submitted.

(1)

(d) Using the menu you created in Activity 3, click the 'Add dog (existing owner)' button.

(i) Use the select owner combo box on the form that appears to find this owner.

OwnerID: 10  
Surname: James  
Forename: Leonila

Produce a screen print in **FORM** view showing the form with the data that appears after the owner has been selected.

(2)

(ii) Enter the details of this dog on the subform.

BreedID: 35  
Dog name: Chang  
Gender: Bitch  
Age in years: 3

Produce:

- a screen print in **FORM** view showing the form with the test data
- a screen print of the relevant tables showing the new record.

(1)

(e) Using the form you created in Activity 3(g), add details of this boarding visit.

OwnerID: 45  
Date of Arrival: 01/07/2017  
Number of Nights: 7  
PackageID: 2  
ActivityID for activity 1: 1  
ActivityID for activity 2: 3

Produce a screen print in **FORM** view showing the form with the test data and the results of any calculations.

(4)

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**(Total for Activity 4 = 11 marks)**



### Activity 5 – Printing owner reports (suggested time 30 minutes)

**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.)**

The employee needs to be able to print out a report for the owner selected on the 'Add dog(s) (existing owner)' form created in Activity 3.

- (a) Create a query that will find the owner and dog details for the owner selected on the form.

The query should display the owner's:

- name
- address
- postcode
- telephone number
- email address.

It should also display the dog's:

- breed name
- name
- gender
- age in months
- age in years.

Screenprint the query in **DESIGN** view.

Ensure that all fields and criteria can be seen in full.

(2)

(b) Create a database report.

(i) Group the report appropriately.

(1)

(ii) Ensure that the group header shows these fields:

- Surname
- Forename
- Address
- Postcode
- TelNo
- Email

and these labels:

- Breed name
- Dog name
- Gender
- Age in months
- Age in years

(1)

(iii) Ensure that the detail section shows these fields:

- BreedName
- DogName
- Gender
- AgeMonths
- AgeYears

(1)

(iv) Ensure that the group footer shows the total number of dogs the owner has.

(1)

(c) Format the report.

(1)

(d) Select OwnerID 6 from the select owner combo box on the 'Add dog(s) (existing owners)' form created in Activity 3.

(1)

Screenprint the report in **DESIGN** view.

Print the database report for OwnerID 6.

**Evidence to be submitted for Activity 5**

- A screen print of the query in **DESIGN** view.
- A screen print of the database report in **DESIGN** view.
- The printed database report.

**(Total for Activity 5 = 8 marks)**

**\*Activity 6 – Evaluation (suggested time 1 hour)**

You need to evaluate these aspects of the prototype you have produced and to recommend possible improvements and extensions.

- ▶ Adding new owners and their dog(s) and adding dogs for existing owners, from a database programmer’s point of view.
  - The benefits of building one form to carry out both tasks.
  - How the tasks could be improved.
- ▶ Adding boarding visits
  - How the design provided in Activity 3 helped you, as the database programmer, to create the form.
- ▶ Recommendations for further functionality
  - Improvements to the prototype and additional functionality you would recommend for the final system.

Produce a report.

The Quality of your Written Communication (QWC) will be assessed in this question.

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**(Total for Activity 6 = 12 marks)**

**Standard Ways of Working.**

**All printouts must contain the activity number, your name, candidate number and centre number.**

**Pages must be securely fastened to the cover sheet and in the correct order.**

**A minimum font size of 10 should be used for all word processed documents.**

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**(Standard Ways of Working = 2 marks)**

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**TOTAL FOR PAPER = 90 MARKS**

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