

Pearson Edexcel GCE

Applied Information and Communication Technology Unit 7: Using Database Software

5 – 23 May 2014

Assessment Window: 3 weeks

Time: 10 hours

Paper Reference

6957/01

You must have:

Cover sheet, short treasury tag, Student_exam.txt, Characters_exam.txt, AssignedCharacters_exam.txt, AssignedJobs_exam.txt

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. 2 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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PEARSON

Scenario

Wallsherpool Sixth Form College – Theatre Company

Wallsherpool Sixth Form College is located in the North East of England. Vicky Wilkinson is the performing arts teacher. She produces performances at various times during the year. Some of the performances are used to generate evidence for students studying A-level performing arts, others are purely for fun. The next production will be The Wizard of Oz and it is a performance for fun. It will be performed for the general public over a number of dates.

Every performance needs students to take a range of production jobs, for example sound crew, directing crew and actors. Students specify the production job they would like to have. They keep the same job on all productions they are involved in.

Each production has characters, which only actors can be assigned to play. For example, in The Wizard of Oz there is a character called Dorothy. Only one actor is assigned to a title role, such as Dorothy. Up to ten actors can be required for a bit part character, such as winged monkeys.

Currently Vicky keeps handwritten records of students and productions. She is finding this stressful as it is hard to make sure production jobs have been filled and all characters have actors assigned to them. Vicky knows you are studying ICT and thinks you could develop a more efficient IT-based solution to register students and manage the productions. In the first instance it has been agreed that you will design and build a **prototype** relational database system that will focus on three tasks.

1 Registering students, which involves:

- ensuring their name, gender and preferred production job are present
- generating a unique student number
- storing the student details if all requirements are met
- providing a suitable message for Vicky, so that she knows what is happening.

2 Assigning students to characters and other jobs for The Wizard of Oz, using one form only, which involves:

- selecting the production
- indicating what type of production job the student is to be assigned to
- if it is an actor then:
 - selecting the character
 - displaying details for this character
 - calculating the number of actors still needed
 - ensuring only a suitable actor can be assigned to that character
 - storing the character assignment if all requirements are met
 - updating any records as necessary.
- if it is another production job:
 - allowing the job to be selected
 - allowing only a suitable student to be assigned to that job
 - storing the job assignment if all requirements are met.

3 Printing characters needing actors – A report that shows the characters that still need actors for the current performance.

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.

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

- (a) Use a word processor to create a copy of this table, which lists actions in the tasks identified in the scenario.

Actions	Input	Generated	Output	Validation
Ensuring name, gender, and production job preference are present				
Selecting the production				
Providing a suitable message for Vicky, so that she knows what is happening				
Calculating the number of actors still needed				
Updating any records as necessary				

For each action, identify whether it is an input to the system, something that is automatically generated, an output from the system or validation that will be required.

(4)

- (b) Use word processing software to answer this question.

Identify **two** reasons why it is important to keep referring back to the functional specification as the system is designed, built and tested.

(2)

Evidence to be submitted for Activity 1

On **one** side of A4:

- Your completed table for part (a).
- Your answer for part (b).

(Total for Activity 1 = 6 marks)

Activity 2 – Structure (suggested time 2 hours)

You will need to use the data files **Student_exam.txt**, **Characters_exam.txt**, **AssignedCharacters_exam.txt** and **AssignedJobs_exam.txt**

These are provided in your examination area.

Study the data files.

You will also need to study this data.

ProductionID	ProductionTitle
WIZ0001	The Wizard Of Oz
WWC0002	Willy Wonka And The Chocolate Factory

- (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 clearly seen.

(12)

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

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

(3)

- (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.

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

(1)

- (ii) 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)

- (iii) Screenprint in **DESIGN** view **ONE** example of a **List Check** or **Table Lookup** on an appropriate field. 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 **and** enter the additional data provided at the beginning of this activity into the tables you have created.

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.)

(6)

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

(Total for Activity 2 = 24 marks)

Activity 3 – Dealing with registering students and assigning students to characters and other jobs (suggested time 4 hours)

(a) A form is required that will allow Vicky to add the details of students who wish to take part in productions.

(i) Create a data entry form for Vicky to use.

For each student the form should collect their:

- name
- level of study
- date of birth
- gender
- address
- preferred production job.

(1)

(ii) A StudentNumber consists of 1314 followed by a sequential four digit number one higher than the last number currently used. Generate the StudentNumber.

Screenprint the form in **DESIGN** view.

It does not need any annotations.

Ensure you show how the StudentNumber is generated.

(1)

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

Screenprint the form in **FORM** view.

On the screen print, identify **one** of the features you have used to customise the form. Explain how this feature makes the form easier to use.

(2)

(b) An automated method of saving a new student record is required.

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

The automated method of saving should:

- ensure the student's name is present
- ensure their level of study is present
- ensure their gender is present
- ensure their preferred production job is present
- include a message to indicate the record has been saved.

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

Ensure the detail can be seen in full.

(3)

(c) A single form is required that will allow Vicky to assign production jobs or characters for a production.

(i) Create this form:

Put a suitable title here

Select the Production

Select the Production Job
 Actor
 Other

Actor

Select the Character

Gender Required

Number Needed	Number Assigned	Still Needed
<input type="text"/>	<input type="text"/>	<input type="text"/>

Select the Actor

Other

Select the Job Role

Select the Student

Screenprint the form in **FORM** view.

It does not need any annotations.

(1)

(ii) The production combo box must contain details of the productions.

Screenprint the combo box source.

It does not need any annotations.

(1)

(iii) The 'Actor' section of the form needs to be developed.

- Create a query that will find characters still needing actors when a production is selected in the production combo box. Assign this query to the character combo box.
- When a character is selected display:
 - the gender required
 - the number of actors needed
 - the number of actors already assigned.
- Calculate and display the number of actors still needed for a character.
- Create a query to find suitable actors when a character is selected. Assign this query to the actor combo box.

(8)

(iv) The 'Other' section of the form needs developing.

- Create a query that finds all non-actor production jobs. Assign this query to the production job combo box.
- Create a query that will find suitable students when a production job is selected. Assign this query to the student combo box.

(3)

(v) The 'Actor' options must only be available for use if Vicky has selected 'Actor' from the production job choices. The 'Other' options must only be available if 'Other' has been selected.

(2)

(d) Create an automated method of saving an assignment.

The automated method of saving should include:

- ensuring relevant data is selected
- storing the record in the relevant table
- carrying out any relevant updates.

(3)

Screenprint in **DESIGN** view all macros, code and queries you have used.

Ensure that the detail can be seen in full.

(Total for Activity 3 = 25 marks)

Activity 4 – Testing (suggested time 1 hour)

(a) Enter the details of this student on the relevant form.

StudentSurname:	Little
StudentForename:	Ian
StudentDateOfBirth:	01/05/1997
StudentGender:	Male
StudentStreet:	10 Chard Hill
StudentTown:	Billingham
StudentPostCode:	TS3 9LR
StudentLevel:	AS
ProductionJobID:	Act

Produce a screen print of:

- the completed form in **FORM** view
- the relevant table showing the new student details.

(2)

(b) Use the form you created in Activity 3 to assign an actor to a character.

(i) Select 'WIZ0001 – The Wizard of Oz' from the production combo box and select 'Actor' from the production job choices. Screenprint the form in **FORM** view.

(1)

(ii) Produce a screen print showing the list of characters needed in the character combo box.

(1)

(iii) Select the character '24 – Dorothy' and produce a screen print of the form to show the gender required, number needed, number assigned and the generated field showing the number of actors still needed.

(1)

(iv) Produce a screen print showing the list of actors available in the actor combo box.

(1)

(v) Select the actor '13140066 – Sophie Alice Bentham'. Save the record and produce a screen print of the relevant table showing the new character assignment record.

(1)

(vi) Produce a screen print of the relevant table(s) showing any updates that have taken place.

(1)

- (c) Use the form you created in Activity 3 to assign a student to a production job.
- (i) Select 'WIZ0001 – The Wizard of Oz' from the production combo box and select 'other' from the production job choices. Select 'Cos - Costume Crew' from the job role combo box. Produce a screen print of the list of students available for this job. (1)
 - (ii) Select the student '12130050 – Lewis John Bate'. Save the record and produce a screen print of the relevant table showing the new production job assignment. (1)
 - (iii) Produce a screen print of the relevant table(s) showing any updates that have taken place. (1)

(Total for Activity 4 = 11 marks)

Activity 5 – Printing characters that still need actors (suggested time 1 hour)

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.)

Vicky would like to be able to print a report that shows the characters that still need actors.

- (a) Create a query that will find characters that still need actors for the current production.

For each character type, the query should:

- display the character type, character name, character gender, number needed and number assigned
- generate the number of actors still needed naming the field 'NumberLeft'.

Screenprint the query in **DESIGN** view. Ensure that the criteria can be seen in full.

(2)

- (b) Create a database report based on the query.

- (i) Group the report appropriately and add a suitable title that will appear on every page.

(2)

- (ii) Ensure that the group header shows:

These fields:

- CharacterType

These labels:

- CharacterName
- CharacterGender
- NumberNeeded
- NumberAssigned
- NumberLeft

(2)

(iii) Ensure the detail section shows these fields:

- CharacterName
- CharacterGender
- NumberNeeded
- NumberAssigned
- NumberLeft

(1)

(iv) Ensure the group footer section shows the overall total number of actors still needed for the particular character type.

(1)

(v) Ensure the report footer shows a grand total of the number of actors needed overall.

(1)

(c) Format the report.

(1)

Screenprint the report in **DESIGN** view.

Print the database report.

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 = 10 marks)

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

You need to evaluate these aspects of the prototype you have produced.

- The student registration form.
 - How well it meets the criteria identified in the scenario.
- The form for Vicky to use to assign production jobs and characters.
 - How well the form design you were given in Activity 3(c) met Vicky's needs.
 - How this design helped you, as the database programmer, to create the form.
 - The improvements that you would make to the design of the form.
- How the level of study could be used more effectively in assigning roles.

Produce an evaluation report.

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

(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.

(Standard Ways of Working = 2 marks)

TOTAL FOR PAPER = 90 MARKS

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Write your name here

Surname	Other names
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Pearson
Edexcel GCE

Centre Number

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Candidate Number

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Applied Information and Communication Technology

Unit 7: Using Database Software

COVER SHEET

5 – 23 May 2014

Paper Reference

6957/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Punch a hole in the top left corner of each printout.
- Ensure your printouts are in the correct order and attach them to page 2 of this cover sheet using a treasury tag.

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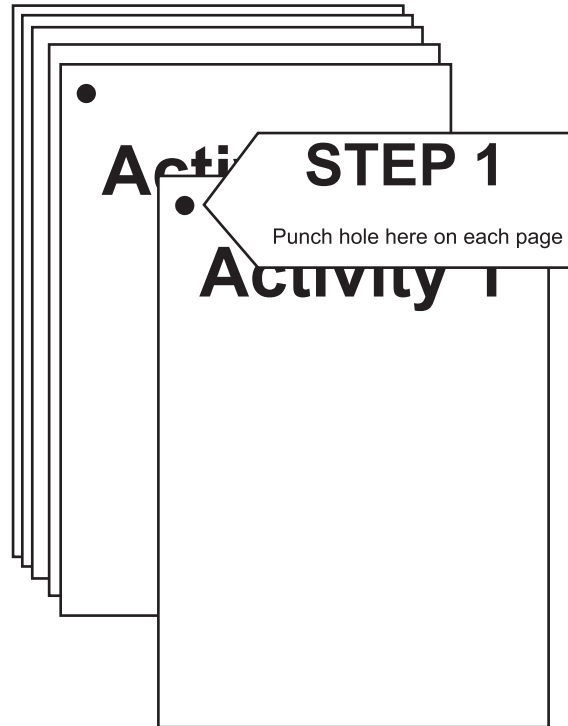
1/1/1/1/1/1/1



Turn over ►

PEARSON

Put 'treasury tag'
through this hole



STEP 2 Arrange your pages in this order, face up.

Activity 1
Activity 2
Activity 3
Activity 4
Activity 5
Activity 6

STEP 3 Put a 'treasury tag' through all
your pages

STEP 4 (last)



FOR EXAMINERS' USE ONLY

Activity 1			
(a)	1		
	2		
	3		
	4		
(b)	1		
	2		
Total			

Activity 3			
(a)	1		
	2		
	3		
	4		
(b)	1		
	2		
	3		
(c)	1		
	2		
	3		
	4		
	5		
	6		
(d)	1		
	2		
	3		
	4		
	5		
Total			

Activity 4			
(a)	1		
	2		
(b)	1		
	2		
	3		
	4		
	5		
(c)	1		
	2		
	3		
Total			

SWW		
1		
2		
Total		

Activity 2			
(a)	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
(b)	1		
	2		
	3		
(c)	1		
	2		
	3		
(d)	1		
	2		
	3		
	4		
	5		
	6		
Total			

Activity 5			
(a)	1		
	2		
(b)	1		
	2		
	3		
	4		
	5		
(c)	1		
	2		
Total			

A1		
A2		
A3		
A4		
A5		
A6		
SWW		
Total		

Activity 6			
MB1			
MB2			
MB3			
Total			



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