Coursework Task

Intermediate 2 Information Systems

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Coursework Task

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Contents

Introduction   Organisation and Conditions for Assessment

Section 1   2009/20010 Coursework Task

Section 2   Marking Information

Appendix 1   Detailed Marking Instructions

Introduction

Organisation and Conditions for Assessment

Organisation and Conditions for Assessment

The assessment is designed to test each candidate's ability to apply knowledge and understanding and practical skills, developed through study of the Database Systems and Using Information Units. The mark out of 30 should be submitted to the SQA unscaled. This will be combined with the examination mark out of 70 to establish the candidate's overall grade of award. This mark should also be used in preparation of estimate grades.

The notional design length for the assessment is 8 - 10 hours. However, a candidate may be allowed longer than this if required.

The assessment is to be undertaken under "open book" conditions, but under supervision by the tutor to ensure that the work submitted is the candidate's own work. The tutor may give the candidate hints and/or help if requested. Any such help should be reflected in the marks awarded. Once the task has been completed and marked, it should not be returned to the candidate for further work.

These instructions are designed to be used in conjunction with the data files provided with the electronic distribution of the task. These can be downloaded from the SQA secure website.

The files to be downloaded should include :
- The 2009/2010 Intermediate 2 Information Systems Coursework Task
- Chellow database
- Background image for the graphical scene
- Seven animal photographs

Candidates are not required to spend time entering data into a database. Instead, the data should be prepared beforehand and provided to candidates by the centre.

To facilitate this, database files for Microsoft Access and FileMaker Pro have been provided for this task. The files contain or represent a number of tables with data entered. The appropriate file(s) should be made available to the candidates.

Centres using alternative relational database software can use the accompanying data files, which contain tab-delimited data required for the tables. The centre should set up tables as appropriate within the database software and import the data provided. The resulting database file should then be made available to the candidates.

Notes

- Candidates should be given a copy of the marking grid before starting the task so that they are aware of the mark distribution for each part.

- Candidates should be given the Chellow database which contains the Animal table. During the Coursework, the candidate will have to create the Keeper table and link the two tables together. It is essential that candidates use a relational database application for these tasks.

- Task 3 asks candidates to print out a copy of the design of the Keeper table. This is to provide evidence that the correct field types have been used and all necessary validation checks implemented. The assessor should help candidates produce this printout without penalty.

  o In FileMaker Pro, to get a printout of the design, candidates should adhere to the following instructions.

    (1) Select the "Define" option from the File menu and then select the "Database" option from the sub-menu.
    (2) Click on the Tables tab.
    (3) Click on the Keeper table and then choose Print.

  o In MS Access, to get a printout of the design, candidates should adhere to the following instructions.

    (1) Select the "Analyze" option from the Tools menu and then select the "Documenter" option from the sub-menu.
    (2) Click on the Keeper table and click on the Options button.
    (3) Make sure that the following options are checked/selected:
        - Include for Table
            - Properties
            - Relationships
        - Include for Fields
            - Names, Data Types, Sizes and Properties
        - Include for Indexes
            - Names and Fields

    (4) Click on OK
    (5) To display the design on screen and then Print.
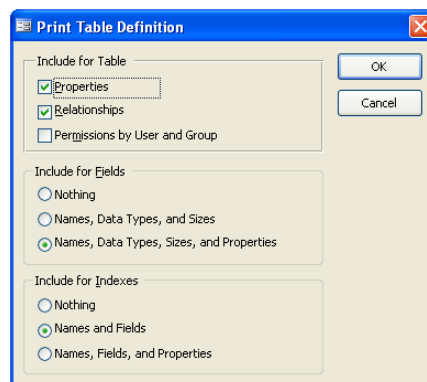
- Task 6 asks candidates to print out a hardcopy of the relationships.

  o Printing Relationships in FileMaker Pro

    (1) Select the "Define" option from the File menu and then select the "Database" option from the sub-menu.
    (2) Click on the Relationships tab then click on the Print button.

  o Printing Relationships in Access

    (1) Open the Relationships window.
    (2) Select the "Print Relationships" option from the File menu.

Section 1

Coursework Task

Intermediate 2 Information Systems
Coursework Task 2009/2010

Chellow Zoological park aims to support wildlife conservation by providing a centre for breeding and conservation of animals. School groups can visit the park to learn about the various animals and the reasons why many are now classed as endangered species.

Chellow stores details about every type of animal in the park. This information can be accessed during educational visits if required.

A sample record is shown below.

Animal Species	Sumatran Tiger
Class	Mammal
Continent of Origin	Asia
Average size (m)	1.5
Lifespan (years)	15
Main Colour	Tan
Favourite Food	Deer
Habitat	Rain forest
Endangered	Yes
Keeper ID	KPR004

Chellow employs a group of highly trained park keepers on either a full-time or part-time basis. Each keeper has overall responsibility for specific species of animals only, although they can help out with all the animals in the park if required.

The following information about each keeper has still to be added to the database.

Field Name	Field Type	Field Size	Primary Key	Sample data
Keeper ID	Text	6	Yes	KPR002
Name	Text	20	No	J Thomas
Gender	Text	1	No	M
Date Employed	Date		No	06/10/1985
Phone Extension	Text	3	No	655
Employment Status	Text	10	No	full-time

What you have to do

		Tasks	Evidence Required
1		Using a relational database application, create a table called **Keeper** that can be used to store information about each of the Park Keepers working at Chellow. You should use the design shown on *Page nine*. (*Note: Your assessor will have provided you with the database file* **Chellow** *containing the* **Animal** *table.*)	
2	a)	Park Keepers are employed on a full-time or part-time basis. Alter the table so that the **Employment Status** field has a restricted choice validation check allowing only full-time or part-time to be entered.	
	b)	Alter the table so that the **Gender** field has the appropriate restricted choice validation check applied.	
3		Print out a copy of your design for the **Keeper** table. This should show the field types and validation checks. (*If you are unsure how to do this, your assessor will be able to help you.*)	Printout of the **Keeper** table design showing field types and validation checks.
4		Enter all the data into the **Keeper** table, taking care to ensure that the data is entered as shown below.	

Keeper ID	Name	Gender	Date Employed	Phone Extension	Employment Status
KPR001	M Tawse	M	29/06/1995	654	full-time
KPR002	J Thomas	M	06/10/1985	655	full-time
KPR003	M Jones	F	14/04/2002	650	full-time
KPR004	S Lee	M	29/04/2002	653	part-time
KPR005	S Khan	M	08/01/2005	652	full-time
KPR006	C Davies	F	08/01/2005	651	full-time
KPR007	M Stewart	F	30/06/2007	650	part-time
KPR008	A Brown	M	12/05/2008	655	part-time

What you have to do (continued)

	Tasks	Evidence Required
5	Create a simple report/layout to display the entire contents of the **Keeper** table. Produce a **one page** printout using this report/layout ensuring that all fieldnames can be clearly seen. Your name must be included in the report as a header or footer.	Printout of the **Keeper** table report/layout.
6	Link the **Keeper** table to the **Animal** table by using the **Keeper ID** field. Print out a copy of the relationship showing the link between the tables.	Printout/screendump of the relationship window showing the link between the two tables.
7	One of the Giraffes at Chellow has not been eating. Produce a printout to display the Name and Phone Extension of the Keeper responsible for its care.	Printout of keeper responsible in a report/ layout as specified.
8	Produce a printout of a report/layout showing all mammals that originate from Africa. The printout should display the following fields only: Animal Species, Class, Continent of Origin, Endangered.	Printout of all African mammals in a report/ layout as specified.
9	Produce a printout of a report/layout to show all endangered animals at Chellow that have a lifespan of 10 years or more. The animals should be listed in order of lifespan starting with the longest lifespan. If two or more animals have the same lifespan then they should be listed in alphabetical order of the Animal Species. The printout should display the relevant fields.	Ordered printout of all endangered animals with a lifespan of 10 years or more in a report/layout as specified.

Collect all printouts in the order they were asked for. Ensure your name is printed on each report before handing to your assessor.

The manager of Chellow has asked if you could create a simple presentation giving details on three animals found in the Park. Slides on other animals can be added to this presentation at a later date and then used to help advertise the work of Chellow to other schools.

The manager has photographs of the animals that you can edit to include in your presentation.

He wants you to create an "animal scene" by "cutting out" the animal images from their own photographs and merging them onto the background image supplied.

Each animal has to be resized and positioned.

What you have to do (continued):

	Tasks	Evidence Required
10	Using a suitable package create the "animal scene" shown above. (*Note: Your assessor will supply you with all photographs required*.) You will need to: • load in the background image for the scene; • cut out the "sleeping lion and log", resize and position as shown in the bottom left hand corner of the scene; • cut out the "young giraffe" and position eating the shrub; • cut out the "orangutan" and position hanging from the branch. Finally, check that the animal images are in proportion before saving as **Scene**.	

The manager wants you to create a park logo using the **Tiger** photograph.

Each "cut out" tiger head has been resized and has had the transparency altered. A pale cream background should be used. An example is shown below.

What you have to do (continued)

	Tasks	Evidence Required

11	The manager has designed a park logo to be used in the presentation, as shown above.
	
	• Create the park logo using the "**Tiger**" photograph and drawing tools within the package. Remember to:
	    • use a pale cream background
	    • resize each "cut out" tiger head
	    • apply a different transparency to each tiger head
	    • draw the border around the logo
	    • rotate the text
	• Adjust the logo so that the dimensions are 4 cm in height and 6 cm in width.
	
	Save the completed file as "**Logo**".	

The manager has provided you with more photographs. These need to be edited before they can be used in the presentation.

What you have to do (continued):

	Tasks	Evidence Required
12	Edit the photographs as stated below. • Resize the "**red panda**" photographs so that the width is 8 cm and the height changes in proportion. Flip the photograph so the red panda is facing to the left. Save a copy. • Crop the "**wolf**" photograph to show the head and neck of one wolf only. All parts of the wire fence should be removed and the dimensions of the cropped photograph should be 8 cm x 8 cm. Save a copy. • Resize the "**chimpanzee**" photograph until the dimensions are 8 cm wide by height 10 cm. Save a copy.	

Now that the graphics have been prepared, you are ready to create your four slide presentation. To ensure consistency throughout, you should create and use a master slide with the park logo positioned in the top right hand corner.

What you have to do (continued):

	Tasks	Evidence Required
13	Create a master slide that you will use for all slides in the presentation. You should ensure that: • the logo is imported and positioned in the top right hand corner; • the background colour for the page should be the same pale cream that was used in the logo.	
14	The first slide of the presentation has to include the animal scene and a title. • Import the animal scene picture and position in a central position on the slide. • Add the title "Chellow Zoological Park" at the top of the slide next to the logo.	
15	The second slide of the presentation has to display information about the red panda. • Import the edited red panda photograph and position on the right hand side of the slide. • Add the title "Red Panda" at the top left of the slide. • Extract **five** facts about the red panda from the Chellow database you used in the first task. These facts should be entered in the left hand side of the slide opposite the photograph.	

What you have to do (continued)

	Tasks	Evidence Required
16	Repeat task 15 to create separate slides for both the wolf and chimpanzee.	
17	Add suitable navigational buttons to move forward and/or backwards through the presentation. All buttons should have a consistent size, style and position throughout the presentation.	
18	Print out your presentation showing **one** slide per page.	Printout of the presentation.

(30 marks)

Ensure your name is clearly visible on all printouts before handing to your assessor.

Section 2

Marking Information

Marking Grid

Name _____   **Date** _____

Topic		Possible Marks	Marks Gained	Comment
Creation of Keeper Table	Creation of table	2,1,0		
	Restricted choice	1,0		
	Accurate data entry	1,0		
	Display report	1,0		
	Link Animal and Keeper tables	1,0		
Search	Simple search	1,0		
Complex Search	Search correct	2,1,0		
	Report layout	1,0		
Complex Sort and Complex Search	Search correct	1,0		
	Sort correct	2,1,0		
	Report fields	1,0		
Printouts	Name in header/footer	1,0		
Scene	Cut out images	2,1,0		
	Images resized and positioned	1,0		
Logo	Tigers copied	1,0		
	Logo size	1,0		
Photos	Red panda flipped	1,0		
	Wolf cropped	1,0		
	All images resized	1,0		
Presentation	Master slide	1,0		
	Slide 1	1,0		
	Slide 2	1,0		
	Slide 3	1,0		
	Slide 4	1,0		
	Navigation	2,1,0		
Overall total		**30**		

Appendix 1

Detailed Marking Instructions

CONFIDENTIAL – not to be issued to candidates
Detailed Marking Guidelines

The following guidelines assume that all work was carried out by the candidate on their own (or with the assistance of open book materials). Any assistance by the assessor should be reflected in a reduction of the number of marks awarded.

	Creation of table	2,1,0	Accurate creation of table fields and field types as specified without any help – 2 marks Some advice given – 1 mark *Do not penalise if the date does not have double digits eg 06*
Creation of Keeper Table	Restricted choice	1,0	Both Employment Status (full-time/part-time) and Gender (M/F) set to restricted choice.
	Accurate data entry	1,0	Accurate inclusion of all keeper information – 1 mark >3 mistakes – 0 marks *Do not penalise if capitals have not been used for Keeper ID and Employment Status as long as a consistent approach has been applied. Names should have the appropriate capital letters.*
	Display report	1,0	A one page report created/printed without any help. All field names should be clearly visible – 1 mark.
	Link Animal and Keeper tables	1,0	Tables linked without teacher help – 1 mark.

	Simple search	1,0	Correctly identifies S Lee as the responsible keeper. Printout of the layout/report – 1 mark.
Simple Search			

	Search correct	2,1,0	Complex search for mammals originating in Africa – 2 marks. Only simple search – 1 mark. Otherwise 0 marks.
Complex Search	Layout/Report	1,0	Only specified fields are included and all are clearly visible – 1 mark.

Complex Sort and Complex Search	Search correct	1,0	Complex search on Lifespan and Endangered – 1 mark.
	Sort correct	2,1,0	Complex sort on Lifespan descending and Animal Species ascending – 2 marks. Simple sort – 1 mark. Otherwise – 0 marks.
	Report fields	1,0	Animal Species and Lifespan fields clearly visible on report – 1 mark. *Do not penalise if Endangered field also included.*

| Printouts | Name in header/footer | 1,0 | A mark awarded if **all** report printouts have the pupils name added as a header or footer. |

| Scene | Cut out images | 2,1,0 | Award 2 marks if the candidate has been able to cut out all animals correctly.
Award 1 mark if **any one** animal has been cut from its background with no help. |
| | Images resized and positioned | 1,0 | All three images should be correctly positioned and resized appropriately.
Evidence is generated at printout of presentation. |

| Logo | Tigers copied | 1,0 | Tiger head cut out and copied.
The logo should display 4 heads, each increasing in size and transparency. |
| | Logo size | 1,0 | Approximate size accepted.
Evidence generated at printout stage of presentation. |

Photos	Red Panda flipped	1,0	Photograph flipped to face left.
	Wolf cropped	1,0	Crop tool correctly used to remove wire fence and wolf body.
	All images resized	1,0	All images resized appropriately. Evidence generated at printout of presentation.

Presentation	Master Slide	1,0	All slides should have the same colour and logo size/position.
	Slide 1	1,0	Correct title at the top of the slide and imported animal scene in the centre.
	Slide 2	1,0	Correct title at the top left of the slide, imported photograph on right and any five facts listed to the left of the slide.
	Slide 3	1,0	Correct title at the top left of the slide, imported photograph on right and any five facts listed to the left of the slide.
	Slide 4	1,0	Correct title at the top left of the slide, imported photograph on right and any five facts listed to the left of the slide.
	Navigation	2,1,0	**1 mark** for navigational buttons added which are consistent in size, colour and position. **1 mark** for working buttons which allow the users to move forwards and backwards through presentation as asked.

Results

Task 5

		Keeper ID	Name	Gender	Date Employed	Phone Extension	Employment Status
	+	KPR001	M Tawse	M	29/06/1995	654	full-time
	+	KPR002	J Thomas	M	06/10/1985	655	full-time
	+	KPR003	M Jones	F	14/04/2002	650	full-time
	+	KPR004	S Lee	M	29/04/2002	653	part-time
	+	KPR005	S Khan	M	08/01/2005	652	full-time
	+	KPR006	C Davies	F	08/01/2005	651	full-time
	+	KPR007	M Stewart	F	30/06/2007	650	part-time
	+	KPR008	A Brown	M	12/05/2008	655	part-time

Keeper : Table

Task 7

Giraffe : Select Query

Animal Species	Name	Phone Extension
Giraffe	S Lee	653

Task 8

Mammals from Africa

Animal Species	*Class*	*Continent of Origin*	*Endangered*
Lion	Mammal	Africa	☐
Chimpanzee	Mammal	Africa	☑
Gorilla	Mammal	Africa	☑
Colobos Monkey	Mammal	Africa	☐
Dwarf Lemur	Mammal	Africa	☑
Giraffe	Mammal	Africa	☐
Zebra	Mammal	Africa	☑
Rhinoceros	Mammal	Africa	☑
African Elephant	Mammal	Africa	☑

Task 9

Endangered Animals

Animal Species	*Lifespan(years)*	*Endangered*
African Elephant	70	☑
Chimpanzee	50	☑
Crocodile	50	☑
Orangutan	40	☑
Rhinoceros	35	☑
Gorilla	30	☑
Sun Bear	28	☑
Komodo Dragon	25	☑
Rattlesnake	25	☑
Zebra	25	☑
Jaguar	20	☑
Ocelot	20	☑
Snow Leopard	17	☑
Dwarf Lemur	16	☑
Golden Lion Tamarin	15	☑
Panther	15	☑
Sumatran Tiger	15	☑
Bobcat	12	☑

Task 10
Animal cut-outs

Completed scene

Task 11
Logo size 4 cm x 6 cm

Task 12
Edited photographs

Task 18
Completed Presentation
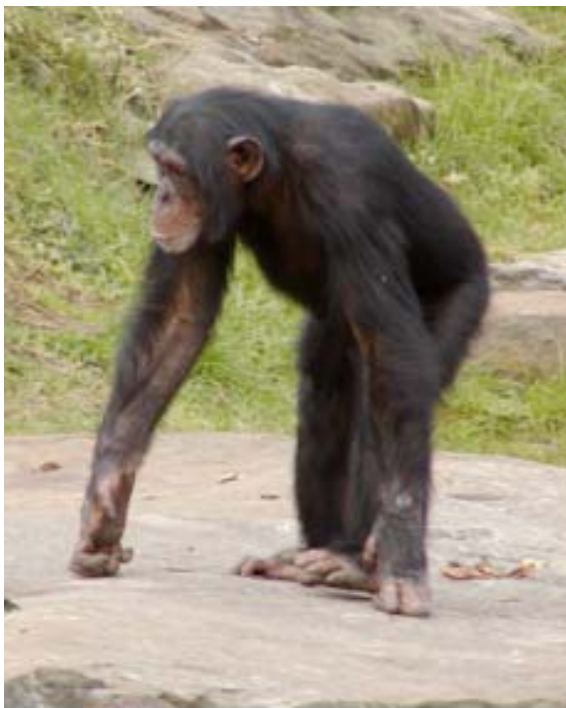
Chellow Zoological Park

Red Panda

Facts

- Originates from Asia
- Average size of 0.66m
- Average lifespan 8 years
- Favourite food is bamboo shoots
- Lives in dense forest habitats

Wolf

Facts

- Originates from Europe

- Average size of 0.8m

- Average lifespan 8 years

- Favourite food is deer

- Lives in forest habitats

Chimpanzee

Facts

- Originates from Africa

- Lifespan of about 50 years

- Favourite food is fruit

- Live in dense rainforest

- Are listed as an endangered species