

Pearson Edexcel International Advanced Level

Monday 8 June 2020

Afternoon (Time: 3 hours)

Paper Reference **WIT14/01**

Information Technology

International Advanced Level

Unit 4

You must have:

The files Cycling.accdb, SkillsTracking.txt, Candidate evidence template.docx

Instructions

- Answer **all** questions using the template provided.
- Paste your screen prints into the appropriate places in the template.
- Type your responses to questions 1(c) and 5 in the appropriate places in the template.

Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets
– use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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Instructions

A template for your evidence is provided in your examination area.

Open the template and type in your centre name, centre number, candidate name and candidate number in the boxes provided.

Save the template using a filename in this format.

Centre number_candidate number_surname_first letter of first name.

For example, 12345_9212_Smith_J

The screen prints you produce should be copied into the appropriate places in this template.

Remember to save the template regularly.

Responses to question 1(c) and question 5 must be typed in the appropriate place in the template.

Scenario

Some people like to learn cycling skills in order to feel safer cycling outdoors.

Anne owns a company that employs trainers to teach cycling skills.

Trainers work between 1 and 4 days per week.

Trainers teach cyclists the skills over the summer.

A trainer teaches many cyclists.

A cyclist is taught by one trainer.

There are 19 skills taught.

Each skill has an ID and a description. For example '8', 'right turn into a major road'.

If a cyclist achieves all 19 skills, they achieve 'Advanced' level.

If a cyclist achieves skills 1 to 13, they achieve 'Intermediate' level.

If a cyclist achieves skills 1 to 5, they achieve 'Beginner' level.

If a cyclist has not achieved skills 1–5, their level is 'Failed'.

Anne keeps a list of trainers in a single table within the database 'Cycling'.

Anne has provided the 'SkillsTracking' text file, which contains an extract of her records of cyclists and their achievements.

Anne is finding it increasingly difficult to keep track of:

- the trainers
- the achievements of cyclists.

She wants a solution that will allow her to manage the system more effectively.

The screen prints you produce should be copied into the appropriate places in your template. Remember to save the template regularly.

Responses to question 1(c) and question 5 must be typed in the appropriate place in the template.

The Cycling database and the Skills Tracking text file are provided in your examination area. Study these files carefully.

1 (a) The trainer table in the cycling database needs to be improved.

(i) A trainer record must not be saved without a name being present.

Set up a presence check so that the name of a trainer must be present.

Screenprint the table in **Design** view, making sure that the presence check can be clearly seen.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(2)

(ii) Set up a list check on the field DaysAvailablePerWeek so that only 1, 2, 3 or 4 days per week are accepted.

Screenprint the table in **Design** view, making sure that the list check can be clearly seen.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(2)

(b) Anne needs a form to enter data about a new trainer.

The form must:

- open ready for data entry
- generate the TrainerID, which is one number higher than the number currently used
- allow the input of trainer details
- provide a button that:
 - displays a message to Anne asking if she wants to save the input information
 - saves it in the table if she does.

Create a user-friendly data entry form for the trainer table that will allow Anne to add new records to the database.

Screenprint your form in **Form** view.

Paste the screen print into the appropriate place in the template.

Produce screen prints in **Design** view to show any macros, code, queries and/or properties you have used. Ensure that all fields and details can be clearly seen.

Paste the screen prints into the appropriate place in the template.

Re-save your template.

(9)

(c) Anne has been told that the stored data in the trainer table is not suitable for the processing she requires.

She would like to be able to:

- send an email to a trainer using:
 - their primary email address
 - their first name
- telephone a trainer as and when required.

The structure of the database and the accuracy of the data are not suitable for the processing she requires.

Analyse the data and recommend how the structure of the database and the accuracy of the data could be improved to allow the processing she requires.

Type your response in the appropriate place in the template.

Do not include any screen prints.

Re-save your template.

(9)

(d) The skills tracking text file in your examination area is an extract from a cycling tracking spreadsheet that Anne uses to keep a record of cyclists and the skills and level they have achieved.

She wants to extend the cycling database so that it can be used for this purpose.

Develop the cycling database to add this functionality.

You must create an efficient data structure that minimises data duplication, uses correct data types and primary keys, and enforces referential integrity.

Produce a screen print that clearly shows the relationships including table names, field names, and primary keys.

Produce screen prints showing the field names and data types in the tables **you** have created.

Paste the screen prints into the appropriate places in the template.

Re-save your template.

(11)

(e) Import the data from the skills tracking text file into the cycling database.

Produce screen prints of **your** tables showing at least **five** records and the full record count. (If the fields are too wide to fit on one page, truncated data is allowed.)

Paste the screen prints into the appropriate places in the template.

Re-save your template.

(3)

(Total for Question 1 = 36 marks)

2 Anne wants to use the database to track the achievements of cyclists.

(a) Create a query that:

- uses a parameter to search for a trainer
- finds the cyclists that have achieved Advanced level with that trainer
- displays **only** the names of the cyclists.

Screenprint your query in **Design** view, making sure that all required tables, fields and criteria can be clearly seen.

Paste the screen print into the appropriate place in the template.

Screenprint your query in **Datasheet** view using the test data TrainerID: 4

Paste the screen print into the appropriate place in the template.

Re-save your template.

(6)

- (b) (i) Anne would like to know the names of the cyclists who achieved Beginner level, but did not achieve Intermediate level so that their trainers can invite them to attend the summer course.

She wants to use the standard report in **Figure 1**. This will use information from the database.

Beginner to Intermediate Cyclists	
This is a list of cyclists who failed Intermediate level. Please invite them to take part in the summer course.	
Trainer: Example Trainer	
Cyclist Name: Example Cyclist Name	Number Skills Required: 2
Skills Required	
Left turn into minor road Right turn into major road	
Cyclist Name: Another Example Cyclist	Number Skills Required: 1
Skills Required	
Passing side roads	
Trainer: Example Trainer	
Cyclist Name: Another Cyclist Name	Number Skills Required: 2
Skills Required	
Left turn into minor road Right turn into major road	

Figure 1

Create a query that will extract the data that Anne needs from the database.

Screenprint your query in **Design** view, making sure that all required tables, fields and criteria can be clearly seen.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(4)

(ii) Anne wants to print the standard report.

She will use the report format shown in **Figure 1**.

Use your query from question 2(b)(i) to extract the data for the report.

Create the report.

Screenprint your report in **Design** view.

Paste the screen print into the appropriate place in the template.

Screenprint your report in **Print** view.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(7)

(Total for Question 2 = 17 marks)

- 3 (a) Anne needs to know the percentage of cyclists who have achieved each Advanced level skill.

Create a query that will do this.

Assume, for any calculations, that 60 cyclists are attempting to achieve each skill.

Screenprint your query in **Design** view, making sure that all required tables, fields and criteria can be clearly seen.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(6)

- (b) (i) Anne would like the information in chart format to make it easier to read.

The chart needs to clearly show the skill description and percentage of cyclists who achieved each skill from the query you created in question 3(a).

Create a report that displays this information as a chart.

Screenprint your report in **Print** view.

Paste the screen print into the appropriate place in the template.

Re-save your template.

(8)

- (ii) Anne also wants the chart as a pdf document.

Export your chart as a pdf document.

Ensure the pdf chart is visible on your screen.

Screenprint the entire window.

Paste the screen print of the entire window into the appropriate place in the template.

Re-save your template.

(1)

(Total for Question 3 = 15 marks)

4 Anne needs a dashboard for the database.

It must provide buttons that will allow her to:

- open the data entry form you created in question 1(b)
- run the query you created in question 2(a)
- print the report you created in question 2(b)(ii)
- view the chart you created in question 3(b)(i).

Create a dashboard that meets these requirements.

Screenprint the dashboard in **Form** view.

Paste the screen print into the appropriate place in the template.

Produce screen prints in **Design** view to show any macros or code you have used.
Ensure that all details can be clearly seen.

Re-save your template.

(Total for Question 4 = 3 marks)

5 Anne intends to offer the cycling courses throughout the year.

Figure 2 shows an extract of the course data she intends to use.

Course						
Course Start Date	03/03/2020		Trainer	Daveta Andren		
Course End Date	04/03/2020		Level	Beginners		
Course Skills						
Skill ID	Skill Description					
1	Basic handling skill					
2	Using gears					
3	Stopping and swerving quickly to avoid objects					
4	Looking all around including behind, without loss of control					
5	Signalling right and left without loss of control					
Cyclists						
CyclistID	First name	Surname	DOB	Age	Parental Consent	School Consent
61	Gillian	Meek	01/01/2010	10	✓	✓
62	Aisha	Alvi	03/09/2010	9	✓	✓
63	Mateo	Garcia	31/03/2008	12	✓	✓
64	Giovanni	Bianchi	06/06/2007	13	✓	✓

Figure 2

Analyse why the present database structure may not allow her to record/generate the course data shown in Figure 2.

Recommend how the database structure could be modified to allow her to record/generate the course data shown.

Type your response in the space provided in the template.

Re-save your template.

(Total for Question 5 = 9 marks)

TOTAL FOR PAPER = 80 MARKS