

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
Cambridge International Diploma in ICT
Advanced Level

RELATIONAL DATABASES

5205/A

Optional Module: Practical Assessment

2004

No Additional Materials are required

**1 hour
and 15 minutes reading time**

READ THESE INSTRUCTIONS FIRST

Candidates are permitted **15 minutes** reading time before attempting the paper.

Make sure that your name, centre number and candidate number are shown on each printout that you are asked to produce.

Carry out **every** instruction in each task.

Tasks are numbered on the left hand side of the page, so that you can see what to do, step by step. On the right hand side of the page for each task, you will find a box which you can tick (✓) when you have completed the task; this checklist will help you to track your progress through the assessment.

Before each printout you should proof-read the document to make sure that you have followed all instructions correctly.

At the end of the assignment put **all** your printouts into the Assessment Record Folder.

This document consists of **4** printed pages.

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UNIVERSITY of CAMBRIDGE
International Examinations

[Turn over


You are working at the Hotel Stella, Tawara Beach. You are going to demonstrate some of the ways in which a relational database can be used to provide necessary information quickly and in an easily understandable form.

- 1 Using a suitable software package, create a new database. 1.1.1
- 2 Import the files **ARDA4RMS.CSV**, **ARDA4FAC.CSV** and **ARDA4COD.CSV** You will need to use the following information to create the tables: 1.2.1
1.2.2
1.3.1

| ARDA4RMS | |
|---------------|---------|
| Field Name | Type |
| RoomNo | Text |
| RmDescription | Text |
| Type | Text |
| Floor | Integer |
| | |
| | |
| | |

| ARDA4FAC | |
|------------|---------|
| Field Name | Type |
| RoomNo | Text |
| ItemCode | Text |
| Quantity | Integer |
| ID | Integer |
| | |
| | |

| ARDA4COD | |
|-------------|------------|
| Field Name | Type |
| ItemCode | Text |
| Description | Text |
| ExtraCharge | Number 2dp |
| | |
| | |

 denotes the primary key.

- 3 Establish the following One-to-Many Relationships: 2.1.1
ARDA4RMS.RoomNo 1----∞ *ARDA4FAC.RoomNo* 2.1.2
ARDA4COD.ItemCode 1----∞ *ARDA4FAC.ItemCode*
- 4 Supply details only of the rooms containing **2** king size beds. You should use **King Size Bed** as a search criterion. 3.1.1
3.2.1
3.2.2
5.1.1

You will need to use the *Description* and *Quantity* fields to find this information.

Show only the fields *RoomNo*, *RmDescription* and *Type*

Sort this data into ascending order of *RmDescription* and ascending order of *RoomNo*

Print out this list.

Make sure that your name and today's date are shown on the printout.

You are going to prepare a report which shows details of all the rooms on the third floor.

- 5 Select from all the records, only the rooms on the 3rd floor. 3.1.2
- 6 Prepare and print a report showing this information: 4.1.1
- The report header should include **Stella Hotel** and today's date 4.1.2
 - The detail rows should show *ItemCode*, *Quantity*, *Description* and *ExtraCharge* 4.1.3
 - Group the data by *RoomNo* 5.1.1
 - For each Room heading show
 - *RoomNo*
 - *RmDescription*
 - the total cost of extra facilities in the room
 - At the end of your report show your name

Your report may look something like this:

| Stella Hotel | | 30 December 2003 | |
|--------------------------|------|-------------------------|-------------------|
| Third Floor Rooms | | | |
| 310 | | Deluxe Suite | Total 9.99 |
| 9 | 9999 | Standard Bed | 9.99 |
| 9 | 9999 | Kettle | 9.99 |
| 9 | 9999 | King Size Bed | 9.99 |
| 9 | 9999 | Television | 9.99 |
| 9 | 9999 | Video | 9.99 |
| 312 | | Deluxe Suite | Total 9.99 |
| 9 | 9999 | Standard Bed | 9.99 |
| 9 | 9999 | Television | 9.99 |
| 9 | 9999 | Kettle | 9.99 |
| 9 | 9999 | King Size Bed | 9.99 |
| 318 | | Deluxe Suite | Total 9.99 |
| 9 | 9999 | King Size Bed | 9.99 |
| 9 | 9999 | Standard Bed | 9.99 |
| 319 | | Deluxe Suite | Total 9.99 |
| 9 | 9999 | King Size Bed | 9.99 |
| 9 | 9999 | Standard Bed | 9.99 |
| 320 | | Deluxe Suite | Total 9.99 |
| 9 | 9999 | Standard Bed | 9.99 |
| 9 | 9999 | King Size Bed | 9.99 |
| John Smith | | | |

You are now going to prepare a report which summarises some information about the number of beds of each kind per floor.

- 7 Select from all the records, only details of the beds on each floor. 4.1.1
Include only the fields *ItemCode*, *Floor*, *Description*

You will need to use the *Description* field to find this information.

- 8 Using this data, create a cross-tab (pivot table) which shows *Description* as row labels and *Floor* as column headings. Show the numbers of each bed type per floor. 4.2.1

- 9 Add the title **Summary – Beds per floor**, your name and today's date to the report and then print it. 5.1.1

Your report may look something like this:

| Summary – Beds per floor | | | | | |
|--------------------------|---|---|---|---|---|
| Description | 1 | 2 | 3 | 4 | 5 |
| King Size Bed | 9 | 9 | 9 | 9 | 9 |
| Queen Size Bed | 9 | 9 | 9 | 9 | 9 |
| Standard Bed | 9 | 9 | 9 | 9 | 9 |
| John Smith 1 Jan 2004 | | | | | |

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5205/B

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[Turn over

You are working at the Stella car rentals. You are going to demonstrate some of the ways in which a relational database can be used to provide necessary information quickly and in an easily understandable form.

- 1 Using a suitable software package, create a new database. 1.1.1
- 2 Import the files **ARDB4LOC.CSV**, **ARDB4VEH.CSV** and **ARDB4MAN.CSV**. You will need to use the following information to create the tables: 1.2.1
1.2.2
1.3.1

| ARDB4LOC | |
|------------|---------|
| Field Name | Type |
| Location | Text |
| LocCode | Integer |
| Manager | Text |
| Phone | Text |
| | |
| | |
| | |

| ARDB4VEH | |
|--------------|---------|
| Field Name | Type |
| Registration | Text |
| PriceBand | Text |
| LocID | Integer |
| ManufID | Integer |
| Model | Text |
| Value | Integer |

| ARDB4MAN | |
|---------------|---------|
| Field Name | Type |
| ID | Integer |
| Name | Text |
| ContactPerson | Text |
| email | Text |
| | |

 denotes the primary key

- 3 Establish the following One-to-Many Relationships: 2.1.1
2.1.2
Ardb4loc.LocCode 1----∞ *Ardb4veh.LocID*
Ardb4Man.ID 1----∞ *Ardb4veh.ManufID*
- 4 Select only cars where the *ManufID* is **3000** 3.1.1
3.2.1
3.2.2
5.1.1

Show only the fields *Location*, *PriceBand*, *Registration*, *Manager* and *Name*

Sort this data into ascending order of *PriceBand* and ascending order of *Registration*

Print out this list.

Make sure that your name and today's date are shown on the printout.

You are going to prepare a report which shows details of all the rentals at the Mackay depot for cars which are not in price band A.

- 5 Select from all the records, only the cars at the **Mackay** depot in price band **B** or above. 3.1.2
- 6 Prepare and print a report showing this information: 4.1.1
4.1.2
4.1.3
5.1.1
- The header should include **Stella Car Rentals** and today's date, *Location*, *Manager* and *Phone*
 - The detail rows should show *Registration*, *Name*, *Model* and *Value*
 - Group the data by *PriceBand* and for each band show the total value of the cars in the band.
 - At the end of the report show your name.

Your report may look something like this:

| Stella Car Rentals | | 30 December 2003 | | |
|---------------------------|----------------|-------------------------|----------------------|------|
| Location Mackay | | Manager | Xxxxxx Xxxxxx | |
| | | Phone | 940 - 8471 | |
| Price Band: | B | | | |
| A9999 | XXXX | YYYY | 9999 | |
| | | Total Value | | 9999 |
| Price Band: | C | | | |
| A9999 | XXXX | YYYY | 9999 | |
| | | Total Value | | 9999 |
| Price Band: | D | | | |
| A9999 | Volvo | S60 | 9999 | |
| A9999 | Seat | Ibiza | 9999 | |
| I88783 | General Motors | Agila | 9999 | |
| E22309 | Fiat | Punto | 9999 | |
| | | Total Value | | 9999 |
| Price Band: | E | | | |
| B20287 | XXXX | YYYY | 9999 | |
| | | Total Value | | 9999 |
| Price Band: | H | | | |
| H55157 | XXXX | YYYY | 9999 | |
| | | Total Value | | 9999 |
| John Smith | | | | |

You are now going to prepare a report which summarises some information about the cars.

- 7 Select from all the records, only the cars where *Location* begins with **M** 4.1.1

Include only the fields *Location*, *PriceBand* and *Registration*

- 8 Using this data, create a cross-tab (pivot table) which shows *Location* as row labels and *PriceBand* as column headings. Show the numbers of cars in each price band at each location. 4.2.1

- 9 Print out this cross-tab. 5.1.1

Make sure that your name and today's date are shown on the printout.

The pivot table should look something like this:

| Location | A | B | C | D | E | H |
|-----------------------|---|---|---|---|---|---|
| Mackay | 9 | 9 | 9 | 9 | 9 | 9 |
| Middleton | 9 | 9 | 9 | 9 | 9 | 9 |
| Muttaburra | 9 | 9 | 9 | 9 | 9 | 9 |
| John Smith 1 Jan 2004 | | | | | | |