

Revision Guide

Cambridge International AS and A Level

Computing

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Revision Guidelines

Revision by the nature of the word implies that this is re-visiting the content and topics that you have studied throughout the year. What you already have in terms of resources to help you with your revision will largely determine the way in which you set about and plan your revision program.

Key issues include:

- ✓ Have you got a copy of the textbook you have followed throughout your course?
- ✓ Did you use it as your course progressed to make your own notes?
- ✓ Has your teacher provided you with notes as each topic has been covered?
- ✓ Have you worked through worksheets prepared by your teacher?

All of these are a good starting point and your first revision task is to gather together all the materials you have produced and accumulated throughout the course. Organise them in the same way as the syllabus you are revising for.

When should I start revising?

As early as possible. Examinations are generally a stressful time and so you need to do everything possible to make this a 'stress free' experience.

A trawl through all the materials you have should establish:

- ✓ What topics you have clear notes for and where you do not
- ✓ Topics where you can do lots of practice, for example, the number systems content in section 3.4
- ✓ Topics which you are definitely confident about and those that you are not.

All questions must be answered in the exam

You must not have large gaps in your understanding and skills to apply this knowledge. Both are important. The trend generally for all advanced level examinations is away from questions which only ask you to reproduce basic knowledge, for example reproducing a basic definition. For a question about database design this could be 'State what is meant by a primary key and a foreign key'. However, a much better assessment of your ability will be if you are able to apply this to a given simple

practical scenario. The question you are more likely to face is – 'Which attribute would be the primary key for table X' – 'How is the relationship formed using a foreign key to table Y.'

Computing is a practical based subject – probably second only to engineering – and so it is reasonable that your computing examination papers should reflect this with questions that require answers which apply your knowledge in the context of practical scenarios.

Past examination paper questions

Looking at as many previous questions as possible can be a very valuable part of revision. Many examples from Cambridge past papers have been carefully selected and included at the end of each section in the course textbook.



Note

Cambridge International Examinations bears no responsibility for the example answers to questions taken from its past question papers which are contained in this publication.

Your teacher will be able to supply you with further past papers and specimen papers and guide you to relevant questions for the syllabus you are following.

So, you've trawled through and organised the materials you have produced throughout the course – what next?

Specific Revision Materials

Cambridge International AS and A Level Computing Revision Guide

This is a new book from Cambridge University Press. The organisation is identical to the course textbook and has frequent 'test yourself' questions as you work through each section.

Revision cards

These are a favourite with students and have the obvious advantage that you can carry them around with you and dip into them in any odd five minutes you can find. Cards are available in different colours and so you could easily develop a system to

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code cards on the same general topic in the same colour. See the example for Chapter 22 on Databases which follows.

How will you organise the cards?

- ✓ Separate sets for each section
- ✓ Separate sets for each topic

Foreign key – An attribute in a table which links back to the same primary key attribute in a second table.

See also cards:

- Normalisation
- Flat files versus Databases and Database Management Systems
- Data Definition Language (DDL) and Data Manipulation Language (DML)

Database design

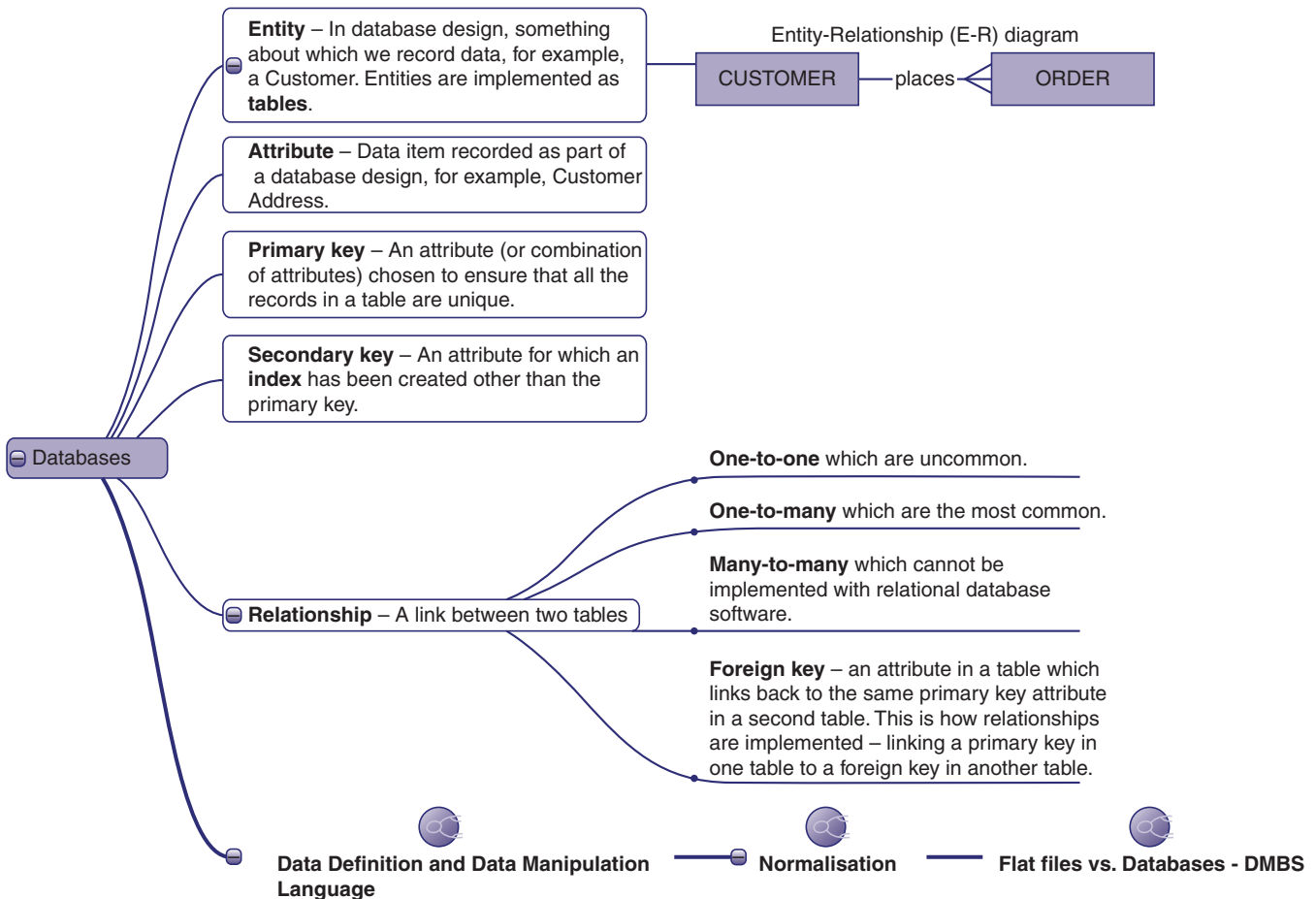
Attribute – Data item recorded as part of a database design.
Entity – In database design, something about which we record data, for example, a Customer. Entities are implemented as tables.
Primary key – An attribute (or combination of attributes) chosen to ensure that all the records in a table are unique.
Secondary key – An attribute for which an *index* has been created other than the primary key.
Relationship – A link between two tables.
 Can be:

- One-to-one – which are uncommon
- One-to-many – the most common
- Many-to-many – which cannot be implemented with relational database software.

Section 3 of the Cambridge syllabus requires that you are also familiar with related topics studied in Section 1. You could devise a system to quickly reference cards to each other where some of the cards have content which was first studied in Section 1 are referenced easily?

Mind mapping

Mind maps provide an effective way to break the content down into manageable amounts and if you are a person who ‘thinks visually’ then you will probably take to mind mapping. My experience is that students tend to be polarised into ‘I like using them’ or ‘I hate them’ but I have found that students do agree they are a useful revision tool. A simple example is shown for (some of) the database content for Chapter 22.



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The following question – taken from a Cambridge past-paper illustrates many of these points.

Question from a Cambridge past-paper

1. (a) State what is meant by a real-time application.

.....

There is no introductory statement. The keyword is 'State' and what is wanted is the basis 'bookwork' definition of a real-time system.

[1]

(b) An air conditioning system is a real-time application. Explain how sensors and actuators are used to control an air conditioning system in an apartment.

.....

The introductory statement applies to part (b) only. The keyword is 'Explain' and there are four marks. The answer must make at least four clear points describing how temperature sensors send data values to the processor – how they are processed – when an actuator is involved.

[4]

(c) Give *one other* example of a real-time application. Justify why your choice is a real-time application.

Example.....
 Justification.....

Keyword is 'Give' but you are having to be more resourceful and come up with your own example of a real-time system. The key requirements are the example and its justification and the paper makes it clear how you are to present this. You can assume there will be one mark for the example and the second mark for the justification.

[2]

Cambridge 9691 Paper 31 Q4 June 2011

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