

Introduction

GCSE ICT Worksheets has been written to comply with the AQA Specification A for GCSE ICT. This is the new specification for examination in 2003. With the convergence in theory content under the new specifications, the worksheets can also be used with other examination boards.

While the *GCSE ICT Worksheets* can be used on their own, they can also be used with the *GCSE ICT Theory Packs 1* and *2* and *Practical Course Packs 1* and *2* to form a complete GCSE ICT course. The three elements have been written to complement each other with a minimum amount of duplication.

The materials in this pack are designed to support the teaching of the ICT theory and, together with the *GCSE ICT Theory Packs 1* and *2*, they relieve students of the need to copy out notes. One effective way of using the materials is to spend some time explaining and discussing the key concepts and then to use the worksheets in the lesson to consolidate learning. The worksheets can be used for individual or group work. The class work can be reinforced and understanding tested by using the homework questions from the relevant chapter in one of the *GCSE ICT Theory* packs.

The worksheets can also be used as the basis of an intensive revision course. Each student can work at his or her own pace, using the answers given on pages 45 to 58, if necessary, to check their own work.

Other titles in the series include:

- *GCSE ICT Theory Pack 1*
- *GCSE ICT Theory Pack 2*
- *GCSE ICT Practical Course Pack 1*
- *GCSE ICT Practical Course Pack 2*

Steve McWeeney
November 2001

All the questions on this worksheet are about the stock file. The list of filenames is given below. Notice that, since in a real database field names do not usually have spaces in them, the spaces have been removed from the field names that we have been using up to now.

- StockNumber
- Price
- NumberInStock
- ReorderQuantity
- Description
- Supplier
- MinimumQuantity

For each question, complete the grid to produce the query requested. Underneath the grid, write down the command language instruction that would do the same job as the query.

1 The StockNumber, Description and NumberInStock for all items supplied by Philips.

Field				
Sort				
Show				
Criteria				

.....

2 The Description, MinimumQuantity and price of all items that cost more than £250.

Field			
Sort			
Show			
Criteria			

.....

3 The StockNumber, Description, NumberInStock and MinimumQuantity for all items that need reordering.

Field				
Sort				
Show				
Criteria				

.....

4 The Description and ReorderQuantity for all items supplied by Hewlett Packard that need reordering.

Field				
Sort				
Show				
Criteria				

.....

Bar codes

- 1 Bar codes are used in many shops to identify goods at the point of sale. This has advantages for the shop management and for the customer. Complete the following passage that describes the use of bar code systems in shops.

*file itemised receipt manufacturer printer bar codes
price product description*

Manufacturers print as part of the product packaging so that products can be scanned at the point of sale. This pre-printed bar code is a number that identifies the country of origin, the and the actual When the bar code is scanned, the product's and are found in the products on the shop's computer system and are transmitted to the point of sales terminal. They are printed to provide the customer with an

Not all goods are pre-packed. A delicatessen counter within a supermarket will weigh out goods, putting them in a bag for the customer. The electronic scales used will also contain a that will produce a label with a bar code on. This is stuck on the bag.

- 2 There are benefits for the customer and for the shop management when a bar code system is used. In the space below, list four advantages for each.

For the customer:

.....

.....

.....

For the shop management:.....

.....

.....

- 3 Libraries often use bar code systems. When someone joins the library, the librarian prints off a bar code label with their membership number. Three of the files used by the library system are given below. Complete the tables to show which fields belong in each file. Note that the book ID is made up of the ISBN (International Standard Book Number) and an acquisition number. The ISBN identifies the book. Some fields appear in two of the tables and these field names are repeated in the list.

*Book ID Name Date of Loan Author Title Book ID Membership Number
Date of Birth Category Address Membership Number Expiry Date*

Members file

Loans file

Book file

Sensors – 1

Sensors are used to detect and measure physical events and data. Different sensors will be used in different situations.

1 Choose the correct sensor from the following list for the activities below:

- Strain gauge Pressure switch Thermistor Light sensor Infra-red source and detector
Reed switch and magnet*

Activity

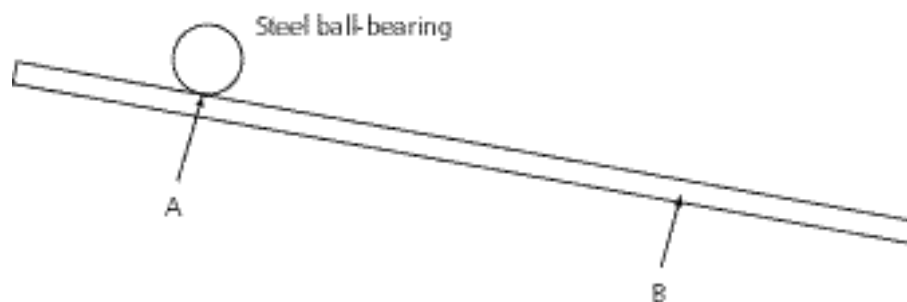
Sensor required

- a Detecting someone climbing the stairs.
- b Weight measurement in digital scales.
- c Counting the number of drinks cans coming off a production line.
- d Detecting a door opening.
- e Automatically switching an outside light off during the day.
- f Turning a boiler off when the hot water in the tank is at 80°C.

2 Mr Jones' security light is automatically turned on when movement is detected outside his house. The neighbours have complained that cats and dogs trigger the light so that it goes on and off all night. This is a nuisance. How can this problem be solved?

.....
.....

3 In a science experiment, a steel ball-bearing is rolled down a board. The board has a groove in it so that the ball rolls straight. The purpose of the experiment is to measure how long it takes the ball to move the one metre distance from A to B, starting at rest at A. This is done with the board at different angles. A data-logger is used to measure the time the ball takes to move from A to B.

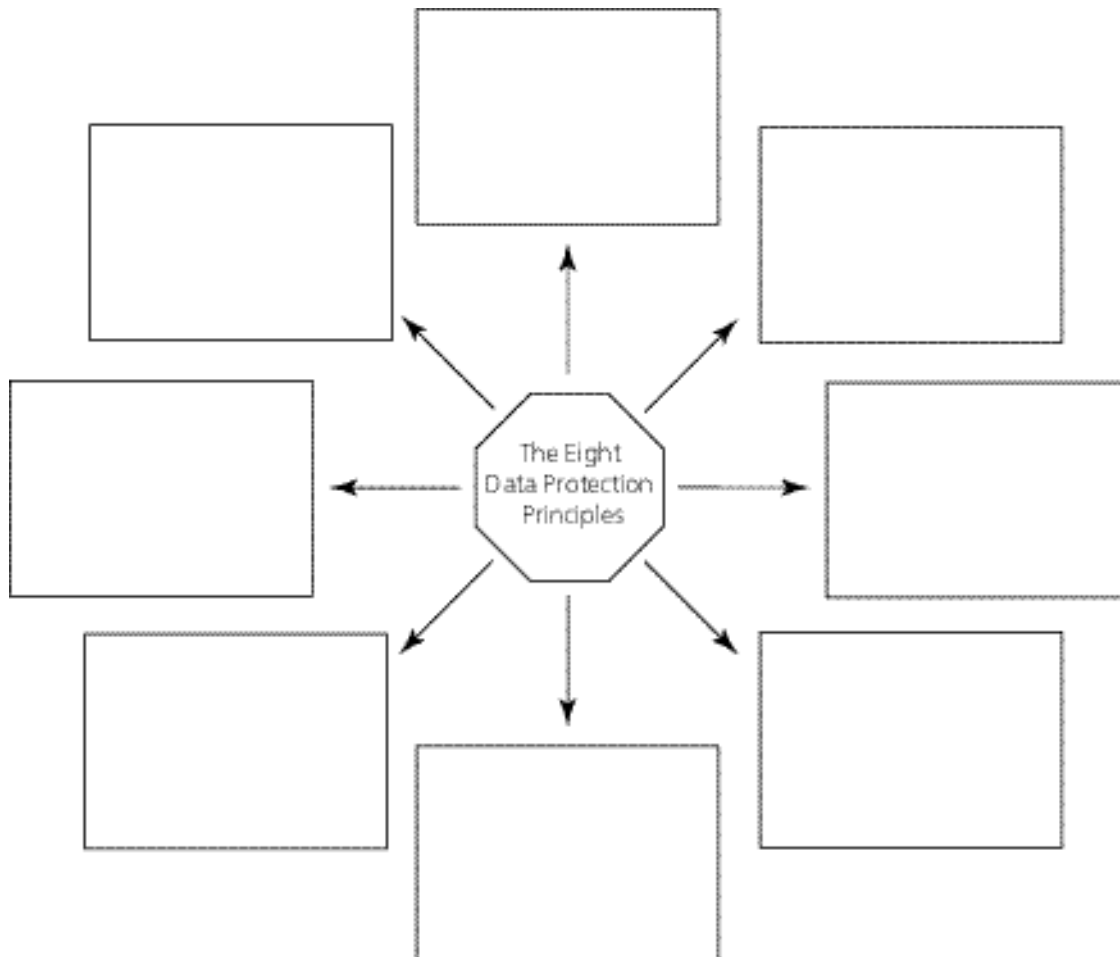


a What advantage does data-logging have in this situation compared to using a stopwatch?
.....
.....

b Describe the sensors that could be used to detect when the ball moves from A and arrives at B.
.....
.....

Computers and the law

- 1 The *Data Protection Act (1998)* has eight principles that must be followed by a data controller when personal data is collected, processed and stored. Complete the diagram below to show what the eight principles are:



- 2 Say which principles have been breached in each of the following cases:
- a A company sends out an official-looking questionnaire to Allison saying that it must be returned within 14 days. In fact, they are just doing consumer research, the questionnaire is not official and the personal details supplied will be used to target mail shots for direct marketing. Allison thought she had to fill the questionnaire in, and now she is receiving junk mail that she does not want.
-
-
- b John receives some junk mail that says he has won a £500 prize. When he contacts the company, they say that their computer system has crashed, data has been lost and they have no record of the prize-winners.
-
-