

UNIVERSITY OF EDINBURGH
FACULTY OF SCIENCE AND ENGINEERING
DIVISION OF INFORMATICS
SCHOOL OF COMPUTER SCIENCE

Computer Literacy 1h

Resit Examination [2nd draft]

Date: September 2001
Time: unknown
Place: unknown
Room: unknown

Board of Examiners

Chair: Stuart Anderson
External Examiner: Muffy Calder

Instructions to Candidates

Attempt **ALL** questions in part 'A' and **ONE** question from part 'B'

Marks for questions are indicated in brackets after each question and the total for the exam is 70.

Part "A"

Answer ALL questions from this section

1. (a) Give one example of a device that would be connected to a computer via a *serial* interface and one that would be connected by a *parallel* interface [2 marks]
 - (b) What is the key weakness in single (private) key encryption processes and what systems avoid this problem? [2 marks]
 - (c) Give an example of data you would need to store using *lossless* data compression and one where *lossy* data compression would be more appropriate [2 marks]
 - (d) What is RSI (Repetitive Strain Injury) and how can it be prevented when using computer systems? [2 marks]
 - (e) What is 'defensive programming' and why would it be used? [2 marks]
2. (a) Describe some of the costs in both time and money of ownership of a computer system over its entire lifetime. [4 marks]

(b)

	A	B	C	D
1	1.00			1.50
2	2.00			2.00
3	3.00			4.00
4	4.00			6.00

<i>function(b)</i>	<i>function(c)</i>
=A1*D1	=\$A1*D\$1

(i) In the spreadsheet above, the formula "=A1*D1" was entered in cell B1 and dragged downwards. State the formulae and values that would be generated for cells B1:B4 [3 marks]

(ii) Similarly, the formula "=\$A1*D\$1" was entered in C1 and dragged down. State the formulae and values that would be generated for cells C1:C4 [3 marks]

3. (a) A company sells a successful application for desktop PCs which tracks and displays share prices. Describe some of the issues they will need to consider when developing a version of this application for a Personal Digital Assistant with inbuilt mobile/WAP capability [4 marks]

(b) You are provided with:

- a) A floppy disk
- b) A brand-new (empty) 250 Mb ZIP disk
- c) A ZIP disk with 3Mb of free space left on it
- d) A ZIP disk with 25Mb left on it
- e) An 80 Gb tape

Making best use of the media you have, how would you create copies of the following:

- 1. An on-line copy of the Edinburgh telephone directory
- 2. A 3 minute album track recorded as MP3
- 3. The contents of the hard disk of a medium-sized desktop PC bought in 2001
- 4. A one-third full CD-ROM
- 5. An 8-page essay

[5 marks]

(c) What is the critical additional factor introduced when information is conveyed as XML as opposed to HTML? [1 mark]

4. (a) . [4 marks]

(b) [3 marks]

(c) [3 marks]

5. (a) [4 marks]

(b) [3 marks]

(c) [3 marks]

Part "B"

Answer ONE question only from this section

B1. Describe the process of conception, design and creation of a web-based offshoot of a company that sells cameras and electronic goods and what the company should do *after* the web enterprise is launched to ensure it remains successful.
[20 marks]

B2. The computing service of a small department is staffed by a graduate service manager and a clerical/operator assistant. Describe what you think the issues are in designing and managing a computing service and what their jobs entail.
[20 marks]

B3 [20 marks]

B4 [20 marks]