Ch8

System Software

CHAPTER ASSIGNMENT · 55 MARKS

Name _____ Class _____ No. _____ Date _____

Answer every question in the space given. Show your working. You may use the chapter page to help you.

Questions from *Computer Science for Cambridge International AS & A Level Coursebook*, 2nd edition, Sylvia Langfield and Dave Duddell (Cambridge University Press), for classroom use.

Tasks and questions from the chapter

DP **Discussion Point:** Have you any experience of using a command-line interface?

T8.01 **Task 8.01:** For each of the above categories of operating system task, each point could be placed in a different category. Make an abbreviated list of these categories and add arrows to show different categories where each point could be placed.

Q8.01 **Question 8.01:** It is useful to describe the management tasks carried out by an operating system as being primarily one of the following types:

- those assisting the user of the system
- those concerned with the running of the system.

Considering the management tasks that have already been categorised, can you identify them as belonging to one or other of the above types? Are there any problems in doing this?

T8.02 **Task 8.02:** If you have never used a disk defragmenter or disk repair utility program, can you get access to a system where you can use one? If so, note the changes that are carried out and recorded by the utility program.

Q8.02 **Question 8.02:** In the systems that you use, the technical staff will have made provision for backup. Can you find out what procedures are followed and what hardware is used for this?

DP **Discussion Point:** What type of facility for language translation are you being provided with? Does your experience of using it match what has been described here?

T8.03 **Task 8.03:** Investigate the facilities in the editors you have available. If you have a choice of editors, you may like to use the editor with the most helpful facilities.

RP **Reflection Point:** Much of the discussion in this chapter only summarises what an operating system does. Do you think it would be helpful to move on immediately to have a look at some of the content in sections 20.01 to 20.05 of Chapter 20?

Exam-style questions

1 (a) One of the reasons for having an operating system is to provide a user interface to a computer system.

(i) Identify **two** different types of interface that an operating system should provide. [2]

(ii) Identify for each type of interface a device that could be used to enter data. [2]

(b) Identify and explain briefly **three** other management tasks carried out by an operating system. [6]

2 (a) A PC operating system will make available to a user a number of utility programs.

(i) Identify **two** utility programs that might be used to deal with a hard disk problem. [2]

(ii) For each of these utility programs explain why it might be needed and explain what it does. [5]

(iii) Identify **two** other utility programs for a PC user. [2]

(b) Library programs are made available for programmers.

(i) Explain why a programmer should use library programs. [3]

(ii) Identify **two** examples of a library program. [2]

3 Assemblers, compilers and interpreters are examples of translation programs.

(a) State the difference between an assembler and a compiler or interpreter. [1]

(b) A programmer can choose to use an interpreter or a compiler.

(i) State **three** differences between how an interpreter works and how a compiler works. [3]

(ii) Discuss the advantages and disadvantages of an interpreter compared to a compiler. [4]

(iii) If a programmer chooses Java, a special approach is used. Identify **one** feature of this special approach. [1]

4 (a) Explain the meaning of the following terms:

- Prettyprinting
- Context-sensitive prompt
- Dynamic syntax check
- Debugging [8]

(b) Describe the features you would expect a debugger to provide. [4]

5 Before it is used, a hard disk is formatted using disk formatter software.

(a) Explain why formatting is needed. [2]

(b) Eventually, the performance of the hard disk deteriorates. Name **three** other utility programs that might be required. State why each is needed. [6]

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6 A programmer is writing a program that includes code from a program library.

(a) Describe **two** benefits to the programmer of using one or more library routines. [4]

(b) The programmer decides to use a Dynamic Link Library (DLL) file.

(i) Describe **two** benefits of using DLL files. [4]

(ii) State **one** drawback of using DLL files. [2]

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End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/computer-science/as-a-level/system-software/