Topic: 1.3.6 Operating systems

May/June 2006

14 Batch processing is used for producing electricity bills.
(a) Give two reasons why batch processing is used rather than real-time processing forproducing electricity bills. [2]

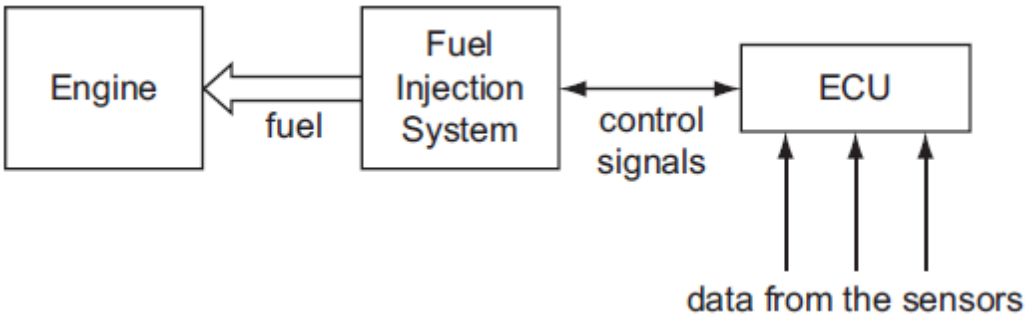
Oct/Nov 2006

1 Explain, using examples where appropriate, the following computer terms:
(e) batch processing [2]

May/June 2007

4 State three tasks done by the operating system. [3]

16 Modern car engines use fuel injection systems which are controlled by microprocessorscalled Engine Control Units (ECUs). The fuel injection system controls the amount of fuelthat goes into the engine. Sensors monitor engine conditions and feed the data back to theECUs.



(d) The fuel injection system operates in real time.
Why would batch processing not be appropriate in this application? [1]

Oct/Nov 2007

8 Give three tasks carried out by systems software. [3]

May/June 2008

1 Explain, using examples where appropriate, the meaning of these computer terms.
(a) batch processing [2]
(b) interrupt [2]

2 List two tasks carried out by an operating system. [2]

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May/June 2009

1 Explain, using examples where appropriate, the meaning of these computer terms.
(a) batch processing [2]

3 (a) Give three features of a typical operating system. [3]
(b) Some microprocessor-controlled devices do not need an operating system.
(i) Give one example of such a device. [1]
(ii) Give one reason why it does not need an operating system. [1]

May/June 2010 P11

1 Explain, with examples, the following five computer terms:
(c) Interrupt [2]
(d) Batch processing [2]

Oct/Nov 2010 P11

5 A large cinema uses a computer system to control the air conditioning and also the day today running of the business (such as booking seats).
(a) Using examples from the cinema application, explain the difference between real timetransaction processing and real time process control. [4]
(b) State two tasks carried out by an operating system. [2]

Oct/Nov 2010 P13

4 (a) Describe two differences between batch processing and real-time transactionprocessing. [2]

(b) Give one example of the use of each type of processing.
batch:
real-time transaction: [2]

May/June 2011 P11

1 Give three tasks carried out by an operating system. [3]

May/June 2014 P11

2 (a) (i) A student wrote: "batch processing can be used when making airline bookings".
Why is this statement incorrect? [1]
(ii) The same student also wrote: "to launch an application, a graphical user interface (GUI) requires typing the name of the application using a keyboard".
Why is this statement incorrect? [1]
(b) A user interface is a function of a typical operating system.
Write down four other functions of a typical operating system. [4]

May/June 2014 P12

Topic: 1.3.6 Operating systems

2 (b) Describe the main differences between batch processing and real time transaction processing. [2]

1.

2. Define what is meant by the term *operating system*. (2)

3. (a) Define the following types of software:
(i) operating system [1]
(ii) applications software

3. Many household appliances contain embedded microprocessors.
Explain why most of these microprocessors don't need operating systems. **[2]**

Some microprocessor-controlled devices do not need an operating system.
(i) Give one example of such a device. [1]

(ii) Give one reason why it does not need an operating system.

4. Describe four features/functions/purposes/task of an operating system. **[8]**

5. Give **two** reasons why an operating system is likely to be stored on backing storage rather than in the memory of the computer. (2)

6. Give three file management tasks that are done by a computer operating system.

7. (a) Give three features of a typical operating system. [3]
(b) Some microprocessor-controlled devices do not need an operating system.
(i) Give one example of such a device. [1]
(ii) Give one reason why it does not need an operating system. [1]
[3]

User Interface:

May/June 2011 P12 (7010)
3. Most operating systems provide a user interface.
(a) User interfaces can be either command line interfaces (CLI) or graphical user interfaces (GUI). Give ONE advantage and ONE disadvantage of both types of interface.

Oct/Nov 2011 P13(7010)

3 A user wishes to use a word processing application. They can either use a command lineinterface(CLI) or a graphical user interface (GUI) to open this application.
(a) Describe how both methods could be used to select the application including any inputhardware needed.
(i) CLI
(ii) GUI [4]

Topic: 1.3.6 Operating systems

May/June 2014 P11 (7010)

2(b) A user interface is a function of a typical operating system.
Write down four other functions of a typical operating system.

Other questions:

1. A computer operator takes phone calls from the public who ring up asking whether a particular item in a catalogue is available. The operator needs to type in a series of responses to questions put to the caller, so that the computer can check the file and determine whether there are any of that item available. Describe a screen interface that would be suitable for the operator to use. (4)

2. The technician responsible for maintaining the system in question 5, uses a command line interface.
   a) Explain what is meant by a *command line interface*. (2)
   b) Give **two** advantages and **one** disadvantage to the technician of using a command line interface rather than a menu based interface. (3)

3. Describe the following types of user interface. For each type of interface give a suitable use, justifying your answer in each case.
   (ii) Graphical User Interface (GUI).
   (iii) Command line.

Utility Software:

9. State **three** different types of utility software and explain why they are necessary in a computer system.

10. State the example/purpose of each of the following pieces of utility software and say how each would be used by the copy editors.
    (i) Disk formatting. [2]
    (ii) File handling. [2]
    (iii) Hardware drivers. [2]
    (iv) File compression. [2]
    (v) Virus checker. [2]

11. (a) Define the following types of software:
    (i) Operating system software,
    (ii) Generic applications software,
    (iii) Translator software,
    (iv) Utility software. **[4]**

12. (a) Explain the meaning of the term utility software.
(b) Describe two examples of utility software. **[4]**

13. (a) State three utility programs associated with the use of a hard drive. Explain the purpose of each of the programs.

14. Give three file management tasks that are done by a computer operating system.

Buffer/Interrupt/Handshaking:

Oct/Nov 2006

1 Explain, using examples where appropriate, the following computer terms:
(c) handshaking [2]

May/June 2007

1 Explain, with examples, the following five computer terms:
- interrupt

Oct/Nov 2007

1 Explain, with examples, the following five computer terms:
(c) interrupt [2]
(d) buffer [2]

Oct/Nov 2008 P1(7010)

Explain, using examples where appropriate, the meaning of these computer terms.
(c) buffer [2]

May/June 2009

4 What is an interrupt? [1]
(b) How can an interrupt be generated? [1]
(c) An exchange of signals between two devices to allow communication to take place. What is this computer function?

Oct/Nov 2009 P1 (7010)

1. Explain, with examples where appropriate, the following five computer terms.
- buffer
- interrupt

Oct/Nov 2010 P1 (7010)

1. Explain, with examples where appropriate, the following five computer terms.
- Printer buffer

Topic: 1.3.6 Operating systems

Oct/Nov 2010 P13(7010)

1. Explain, with examples where appropriate, the following five computer terms.
(a) interrupt

Oct/Nov 2011 P13(7010)

15 A student gave the following three computer definitions.
Give the name of the term being described in each case.
(i) "a signal from a device sent to a computer causing the CPU to stop its current operation temporarily"
(ii) "an exchange of signals between two devices when communicating to ensure synchronisation"
(iii) "a temporary memory to store data waiting to be sent to a device" [3]

May/June 2012. P11

13 Andrew is sending a large document to a printer.
(a) State the name for the area of memory used to store temporarily the data being sent tothe printer. [1]
(b) The printer runs out of paper during the printing job. A signal is sent back to thecomputer to temporarily stop its current task.
Name this type of signal. [1]
(c) When trying to save this document after it was printed, the computer stops responding.
Give two reasons why the computer might stop responding. [2]
(d) Andrew ended up losing his electronic document.
How could that have been prevented? [1]

May/June 2013. P11

7 Which five computer terms are being described below?
(ii) signal sent from a printer requesting attention from the processor; this causes atemporary break in the execution of whatever the processor is doing
(iii) exchange of signals between two devices to ensure synchronisation when communication starts
(iv) temporary storage area in a printer that holds data waiting to be printed [5]

Other questions:

1. State why the process known as handshaking is necessary between a computer and the file server before use.

2. Describe how buffers and interrupts are used in the transfer of data from primary memory to secondary storage.

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3. Describe the stages of the process of transferring data from memory to backing store. Youranswer should include references to buffers and interrupts.

4. (i) Explain the role of the buffer and interrupts when a large document of over 200pages is sent to a laser printer. [3]
   (ii) The use of two buffers would speed up the printing process. Explain why.
5. At the end of a word processing session the document is saved to the hard disk. Describe how a buffer and interrupts are used during this data transfer.

Oct/Nov 2016 P12 (2210)

2 State **four** functions of an operating system. **[4]**

May/June 2017 P11 (2210)

11 State **three** functions provided by an operating system. **[3]**