

Intermediate 2 Computing

COMPUTER SYSTEMS

HOMEWORK 1.1

Name: _____

Date due: _____

You will find that Section 1 of the Notes, pages 3 to 15, is helpful in doing this Homework exercise.

1. What is a **bit**?

2. What is a **byte**?

3. How many bytes are there in a Kilobyte?

4. Write the following in order of size, with the **smallest** first:

byte - Gigabyte - Kilobyte - Megabyte

5. Express the binary number 0001 0011 as a decimal number.

space for your working:

6. Express the decimal number 43 as an 8-bit binary number.

space for your working:

7. State **three** advantages for computers using binary.

8. Now many bits are used to store a text character coded using ASCII?

9. What is a **control character**?

10. What is a **pixel**?

11. The school badge is scanned into a computer at a resolution of 600 dpi. The badge measures 1 inch across by 2 inches down. The image is in black and white.

Calculate the storage size of the image, expressing your answer in bytes. Show all your working.

space for your working:

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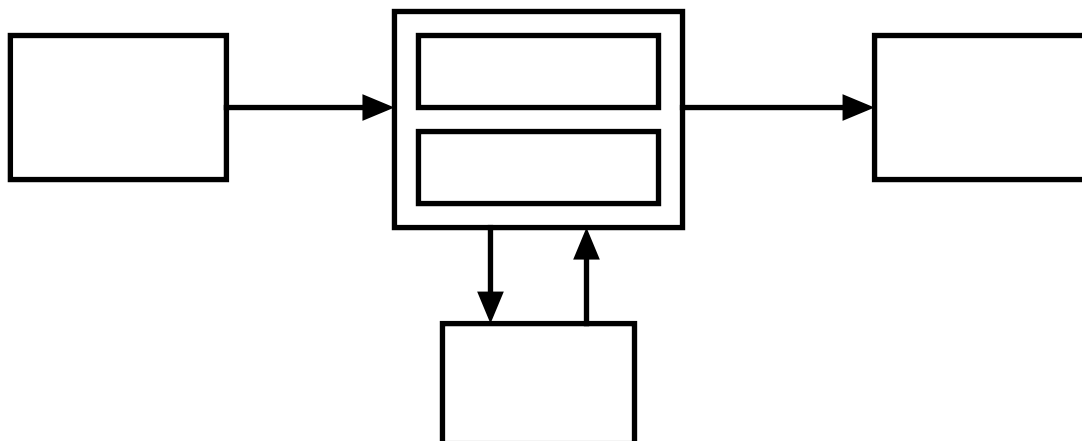
HOMEWORK 2.1

Name: _____

Date due: _____

You will find that Section 2 of the Notes, pages 17 to 31, is helpful in doing this Homework exercise.

1. Complete this diagram of a typical computer system.



2. What is the **ALU** and what does it do?

3. What does the **control unit** do?

4. What is a **register**?

5. For what do the letters **ROM** stand?

State **three** features of ROM.

6. For what do the letters **RAM** stand?

State **three** features of RAM.

7. There are many ways of comparing computer performance. Name **one** of the simplest and most widely used.

8. Name **one** input device common on laptops, but very rarely used with desktop computers.

9. What type of computer would be connected to a number of **dumb terminals**?

10. What is an **embedded computer**?

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HOMEWORK 3.1

Name: _____

Date due: _____

You will find that Section 3 of the Notes, pages 33 to 48, is helpful in doing this Homework exercise.

1. How does a keyboard work?

2. The mouse is a common peripheral. Apart from the standard mouse, there are a number of different types offering additional features.

Name **one** of these, and describe how it differs from the standard mouse.

3. The quality of sound from a microphone depends on its sampling rate and its sample size.

Explain what is meant by **sampling rate**.

Explain what is meant by **sample size**.

4. List **four** features that can be used to compare digital cameras.

5. What could you use a **scanner** to do?

6. List **three** features that can be used to compare webcams.

7. A **CRT** monitor is usually used with a desktop computer. For what do the letters CRT stand?

8. A **LCD** panel is used with a laptop computer. For what do the letters LCD stand?

9. How does an **inkjet printer** work?

10. List **four** features that can be used to compare printers.

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HOMEWORK 3.2

Name: _____

Date due: _____

You will find that Section 3 of the Notes, pages 49 to 62, is helpful in doing this Homework exercise.

1. Complete the following table. Don't forget to include the units used in measuring the speed of data transfer and the capacity.

	Type of access	Speed of data transfer	Capacity
floppy disk			
hard disk			
Zip disk			
magnetic tape			

2. All of the devices in the table in Question 1 above use the same basic method to store data. What is this method called?

3. Which of the devices in the table in Question 1 used to be common on desktop computers, but now very rarely comes with a new computer?

4. How does an optical storage device work?

5. What type of access do all optical storage devices use?

6. What is the capacity of a normal CD-ROM?

7. What is the difference between a CD-R and a CD-ROM?

8. What is the difference between a CD-RW and a CD-ROM?

9. Why can a DVD hold more than a CD?

10. What is an **interface**?

11. Why is an interface necessary?

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HOMEWORK 4.1

Name: _____

Date due: _____

You will find that Section 4 of the Notes, pages 63 to 70, is helpful in doing this Homework exercise.

1. For what do the letters **LAN** stand?

What is a LAN?

2. For what do the letters **WAN** stand?

What is a WAN?

3. What is **broadband**?

4. Explain a **client/server network** by drawing a diagram.

5. List **six** advantages of a network.

6. What is a **browser**?

7. What is a **hyperlink**?

8. What is a **search engine**?

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HOMEWORK 4.2

Name: _____

Date due: _____

You will find that Section 4 of the Notes, pages 69 to 75, is helpful in doing this Homework exercise.

1. What happens when you click on a **hyperlink**?

2. How do search engines such as Google and Yahoo manage to find web sites for you so quickly?

3. Look at this e-mail address:
leesmith@scotsworld.net

What is the **user name** of the person?

What is the **domain name** of the server?

4. What is the **address book** in an e-mail program?

5. What is a **mailing list**?

6. List the **three** criminal offences created by the **Computer Misuse Act** of 1990.

7. What is the purpose of the **Copyright, Designs and Patents Act**?

8. List **two** rights an individual has under the **Data Protection Act** of 1998.

9. List **four** responsibilities a data controller has under the **Data Protection Act** of 1998.

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HOMEWORK 5.1

Name: _____

Date due: _____

You will find that Section 5 of the Notes, pages 77 to 80, is helpful in doing this Homework exercise.

1. What is an **operating system**?

2. Name **four** operating systems in common use.

3. For what do the letters **GUI** stand?

State **three** things this type of interface allows.

4. What is an **application program**?

5. List **five** different types of application program.

6. What type of application program allows you to search and sort the information stored in it?

7. What type of application program allows you to do calculations, often with complex formulae, and produce graphs?

8. What type of application program allows you to create slide shows?

9. What type of application program allows you to rotate, scale and crop images?

10. What type of application program allows you to search and replace text, check spellings and create tables?

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HOMEWORK 5.2

Name: _____

Date due: _____

You will find that Section 5 of the Notes, pages 79 to 82, is helpful in doing this Homework exercise.

1. What is a **standard file format**?

2. **Plain text** and **RTF** are both examples of standard file formats for text.

For what do the letters **RTF** stand?

What is the difference between plain text and RTF?

3. What is a **native file format**?

4. What is a **computer virus**?

5. State **three** different ways in which viruses can be spread.

6. What **four** actions are performed when a virus program is executed?

7. List **four** signs what could indicate that a computer has been infected by a virus.

8. Viruses aren't the only type of malicious code. Name **two** other types.
