

Homework Book

GCSE OCR Computing

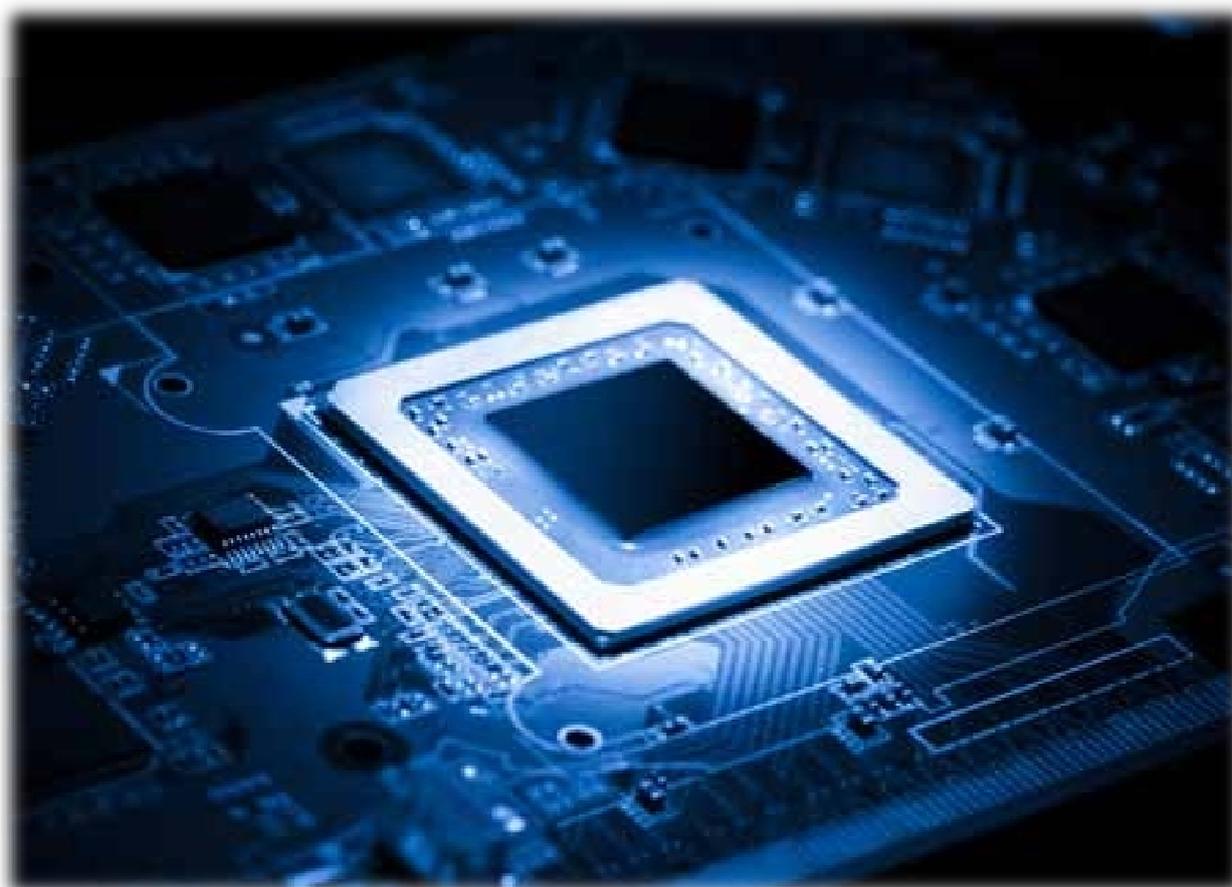
D Lee

Name:.....

Class:.....

Teacher:.....

Year 11



Homework 1

Programming in Python

The development of programming skills is very important in GCSE Computing. Therefore, it is recommended that you practise these skills at home by downloading the Python software for free. It can be found at:

<https://www.python.org/download/releases/3.0/>

You may also want to download the IDE PyScripter, which is also free, from:

<https://code.google.com/p/pyscripter/>

There are several good websites that have tutorials to help you develop these skills. They can be found at:

<http://www.learnpython.org/>

<http://www.codecademy.com/tracks/python>

Homework 2

A primary school has six stand-alone computers. They want to connect the computers to a LAN.

1. Explain, with reasons, two types of hardware that will be needed. (4 marks)

HINT: You should structure your answer like this:

Firstly, a will be needed because.....

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Therefore

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Homework 3

1. Computer networks are widely used. Identify the advantages and disadvantages of computer networks. (6 marks)

| Advantages | Disadvantages |
|------------|---------------|
| | |

Homework 4

1. Draw a picture of a star topology below and explain how it works. (3 marks)

2. Using the writing frame, explain an advantage and a disadvantage of a bus topology. (4 marks)

Advantage: An advantage is that
because
therefore

Disadvantage: A disadvantage is that
because
therefore

Homework 5

1. Explain two differences between a peer-to-peer and client server network.
(4 marks)

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Homework 6

1. Research and make notes on the following file extensions. Include examples of the types of files that may use these file extensions.

| File Type | Possible Uses |
|-----------|---------------|
| JPG | |
| GIF | |
| MPEG | |
| PDF | |
| MP3 | |
| BMP | |
| AVI | |

Homework 7

A rock band uses the Internet to advertise their music. Their website uses HTML.

1. Describe what is meant by HTML. (2 marks)

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2. There is a part of the website where various files can be downloaded. There are three file types available on the website: JPG, MPEG, PDF, MP3. For each file type, suggest what the band might use it for. (4 marks)

| File Type | Possible Uses |
|-----------|---------------|
| JPG | |
| MPEG | |
| PDF | |
| MP3 | |
| HTML | |

3. Some files on the website are compressed. Explain, with examples, the difference between lossy and lossless compression. (4 marks)

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Homework 11

1. Revise the following key words from Year 10 and write your own definition. Refer to **General Exam Skills** at the back of this book to help you develop a good definition.

| Key Term | Meaning |
|----------------------|---------|
| CPU | |
| RAM | |
| ROM | |
| Virtual Memory | |
| Cache Memory | |
| Secondary Storage | |
| Hard Disk Drive | |
| Solid State | |
| Input/output devices | |

Homework 12

1. Revise the following key words from Year 10 and write your own definition. Refer to **General Exam Skills** at the back of this book to help you develop a good definition.

| Key Term | Meaning |
|-------------------------|---------|
| Software | |
| Operating system | |
| Disk cleanup utility | |
| Firewall | |
| Disk defragmenter | |
| Off-the-shelf software | |
| Custom written software | |
| Proprietary software | |
| Open source software | |

Homework 13

1. Convert the numbers below into their binary/denary/hexadecimal equivalent. (Binary numbers should be displayed as an 8-bit number.) Show your workings.

| Binary | Denary | Hexadecimal |
|----------|--------|-------------|
| | 72 | |
| 10011100 | | |
| | | 2F |
| | 10 | |
| 11100001 | | |
| | | A3 |

Homework 14

1. Revise the following key words from Year 10 and write your own definition. Refer to **General Exam Skills** at the back of this book to help you develop a good definition.

| Key Term | Meaning |
|-----------------|---------|
| IDE | |
| Sequence | |
| Selection | |
| Iteration | |
| Compiler | |
| Interpreter | |
| Syntax error | |
| Logic error | |
| Algorithm | |
| Data types | |
| High level code | |
| Machine code | |

Writing Skills

6 mark questions are designed to stretch and challenge students. It is important that you understand how they should be answered. You should structure your answer like this:

1st Paragraph – should explain the key term e.g. give a definition.

2nd Paragraph – should make a point (could be an advantage or disadvantage) and explain the point fully giving an example where necessary.

3rd Paragraph – should make another point (could be an advantage or disadvantage) and explain the point fully giving an example where necessary.

4th Paragraph – should make a point (could be an advantage or disadvantage) and explain the point fully giving an example where necessary. You should have at least 1 advantage and 1 disadvantage.

EXEMPLIFICATION

Off-the-shelf software is software that already exists for many users.

An advantage of using off-the-shelf software is that it is already available, **because** it has already been developed, **therefore** the business does not need to wait to get the software and can start using it very soon.

The example uses connectives – because and therefore – to extend the answer and to ensure that it is answered in full.

General Exam Skills

Explaining

It is important that you can explain your answers accurately and in enough depth to show that you understand the subject. Consider the question below and the two answers that follow.

Question: What is a system clean-up utility

Student A Answer

A system clean-up utility cleans up your hard drive.

Student B Answer

A system clean-up utility searches your computer for unwanted files e.g. deleted items, temporary internet files and it permanently removes these files so that you can free up some space on your hard disk drive.

Examiner comment

Student A does not show understanding of what system clean-up does and has just used words that were in the question.

Student B shows that they understand what the utility does and has given examples to support the answer. The answer starts by saying what the utility does i.e. searches for unwanted files. The student then develops this point by giving examples of files that may be unwanted. Finally, the student then gives the effect it has on the computer i.e. to free up space. They have shown complete knowledge of a system clean-up utility.

Writing Frame – 6 Mark Questions

_____ means _____

Firstly, _____

because _____.

Therefore, _____

However, _____.

because _____

Therefore, _____

Secondly, _____

because _____.

Therefore, _____