Your notes

GCSE Computer Science: revision notes

Ethical, legal and environmental impacts

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Ethical and cultural issues

- **Privacy**: companies collect lots of personal data, such as locations, searches and purchases. CCTV and facial recognition raise questions about surveillance.
- The **digital divide**: some people can't afford technology or internet access, or lack the skills to use it, so they miss out on services and opportunities.
- Other issues include automation replacing jobs, online bullying and harmful content, bias in artificial intelligence, and who is responsible when a self-driving car crashes.

Environmental issues

- Making devices uses energy and scarce metals. Data centres use lots of electricity, and water for cooling.
- **E-waste**: old devices contain toxic materials and are often shipped abroad. Recycling, reusing and longer-lasting devices reduce the harm.
- Technology can also help, for example by reducing travel through video calls, and by monitoring the environment.

Laws

- **Data Protection Act 2018** (with the UK GDPR): personal data must be used fairly, lawfully and transparently, only for specific purposes, kept accurate, kept no longer than necessary and kept secure. People have the right to see the data held about them.
- **Computer Misuse Act 1990**: it is illegal to access a computer without permission, to do so in order to commit another crime, or to change data or damage a computer's working without permission (such as by spreading malware).

- **Copyright**, Designs and Patents Act 1988: protects creative work, including software, from being copied or shared without permission.
- In Guernsey, the Data Protection (Bailiwick of Guernsey) Law, 2017 does the same job as the UK's data protection law.

Software licences

- **Open-source software**: anyone can see and change the source code. It is often free and supported by a community.
- **Proprietary software**: the source code is kept secret, users pay for a licence, and it usually comes with official support.

Key terms

Privacy	A person's right to keep their personal information to themselves.
Digital divide	The gap between people who can and can't access and use technology.
E-waste	Electronic devices that have been thrown away.
Data Protection Act 2018	The UK law that controls how personal data is collected, stored and used.
Computer Misuse Act 1990	The UK law that makes hacking and spreading malware illegal.
Copyright	The legal right that stops creative work, including software, being copied without permission.
Open-source software	Software whose source code anyone can view, change and share.
Proprietary software	Software whose source code is kept secret, used under a paid licence.

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. Which law makes hacking into a computer illegal?
2. Which law controls how organisations use personal data?
3. Sharing copies of a film online without permission breaks which law?
4. What is the digital divide?
5. What is e-waste?
6. What is open-source software?
7. What is one advantage of proprietary software?
8. Which of these is an environmental impact of technology?

Your notes

Answers

1. The Computer Misuse Act 1990
2. The Data Protection Act 2018
3. The Copyright, Designs and Patents Act 1988
4. The gap between people who can and can't access technology
5. Electronic devices that have been thrown away
6. Software whose source code anyone can view and change
7. It usually comes with official support
8. Data centres use a lot of electricity

What to do next

Practise 12 questions on this topic

Try 5 exam questions, with mark schemes

Read the lesson, one step at a time

Free revision for GCSE and KS3 at lycolearn.co.uk. Some notes are for one exam board only, and say so in brackets.

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