Section 07.1 - Ethics and Ownership

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## Layer 7: Application
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Syllabus Content Section 07: Ethics and Ownership

> ✏️ **S07.1.1 Show understanding of the need for and purpose of ethics as a computing professional**   ⌄
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> - Understand the importance of joining a professional ethical body including BCS (British Computer Society), IEEE (Institute of Electrical and Electronic Engineers)

ACM and IEEE are American organisations came up with a set of guidelines / principals regarding ethics
BCM is the British version
ACM: Association for Computing Machinery

> IEEE(Institute of Electrical and Electronic Engineers)

There are 8 principals
But these 8 principals have different parts within them.
They are labelled 1.01 to 8.09

1. Public
   You will act in the public interest
   E.g.: Making software that benefit the public. – WeChat / Social Media

2. Client and Employer
   Act in the best interest of your client and employer while still being true to principal 1
   E.g.: Don't make software that steals credit card numbers

3. Product
   Making sure the products you design relate to high professional standards
   E.g.: You don't make broken software

4. Judgement
   Software engineers should have integrity and independency.
   E.G.: They don't get pressured to make something bad

5. Management
   If you manage other people, you must make sure they are also ethical

6. Profession
   Advance the integrity and reputation of the profession
   E.G.: Don't do anything that makes software engineers look bad

7. Colleagues
   You must be fair and support your colleagues

8. Self
   You should be lifelong learners
   E.G.: Go and learn some new skills

> BCS(British Computing Society)

- Four main points:

1. Public Interest
2. Professional Competence and Integrity
3. Duty to Relevant Authority
4. Duty to the Profession

✏️ S07.1.2 Show understanding of the need to act ethically and the impact of acting ethically or unethically for a given situation ⌄

`Copyright`: Formal recognition of ownership
`Ownership`: If you create something that has an element of originality

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✏️ S07.1.3 Show understanding of the need for copyright legislation ⌄

The reason for copyright are:

1. It takes time and effort to make something and you should be rewarded (with money) if someone uses whatever you made
2. It will be unfair if someone takes or uses your work without your permission

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✏️ S07.1.4 Show understanding of the different types of software licencing and justify the use of a licence for a given situation ⌄

- Licences to include free Software Foundation, the Open Source Initiative, shareware and commercial software

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| Open source software

Free software. Unlimited use and access to source code

| Freeware

Free software. No source code

| Shareware

Software is free but only for a limited time. No source code

| Commercial:

You pay for it.

✏️ S07.1.5 Show understanding of Artificial Intelligence (AI) ∨

- Understand the impact of AI including social, economic and environmental issues
- Understand the applications of AI

AI(Artificial intelligence)

1. problem solving
2. linguistics
3. perception
4. reasoning
5. learning

It can help make smart, low-carbon cities, autonomous electric vehicles, and intelligent appliances.