

7.1 Ethics and Ownership

Name: _____ Class: _____ Date: _____

Total: 30 marks

KEY WORDS software licence 软件许可证 • shareware 共享软件 • copyright 版权 • ethics 伦理
• open source / foss 开源

Objective

Build the skills to answer exam questions on **ethics and ownership** — professional ethics, copyright, and software licensing.

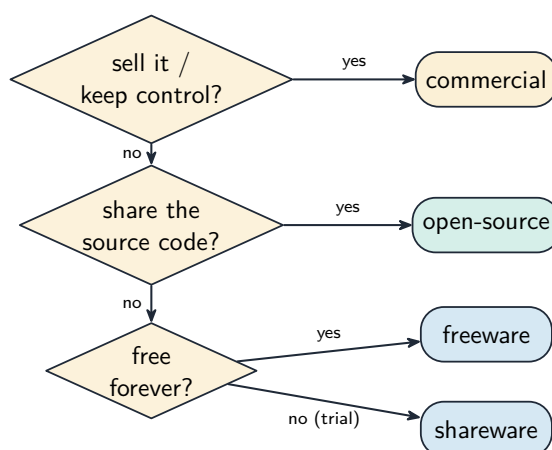
You must be able to:

- explain why a computing professional must act **ethically** 伦理, and the impact of acting ethically or not
- explain the need for **copyright** 版权 legislation
- describe the types of **software licence** and justify a licence for a given situation

1 Worked examples

Study these first. Each one shows the method for a question type used later — follow the steps and you can do the Practice and Exam-style questions yourself.

■ Professional ethics



Software ownership is governed by the type of licence granted

A computing professional's work (software, data, networks) affects people who often cannot judge it themselves, so the profession follows shared **ethics**. Key principles: put the **public interest first**, be **honest** about your competence, keep data **confi-**

dential, avoid **conflicts of interest**, and respect **intellectual property** 知识产权 and privacy.

Acting **ethically** protects users and builds trust; acting **unethically** (skipping testing, hiding bugs, misusing data) can harm users and lead to dismissal, legal action and lost trust.

Many professionals join a **professional body** 专业团体 (such as the BCS) and follow its **code of conduct** 行为准则. Belonging shows a commitment to high standards, gives access to training and up-to-date guidance, and reassures employers and the public; **not** belonging can mean missing this guidance and being trusted less.

■ Copyright

Copyright is the creator's automatic legal right to control how an original work (code, images, music, documents) is **copied, distributed, modified and performed**. It rewards creators so more software is made. It does **not** cover a general idea or algorithm — those may be protected by a **patent** 专利.

■ Software licences

Licence	You may...	Source code	Cost
proprietary 专有	use under strict terms	hidden	paid
open source / FOSS 开源	use, view, modify, share	available	usually free
freeware	use for free	hidden	free
shareware	try free, then pay to keep	hidden	trial then paid

Justify by need: a company protecting its product → proprietary; a school wanting to install and adapt software freely → open source.

2 Practice

Now apply the methods above.

2.1 State **two** reasons ethics matters for a computing professional. [2]

2.2 State what **copyright** protects. [1]

2.3 Name the licence type where the **source code is available to view and modify**. [1]

2.4 Give one ethical principle a computing professional should follow. [1]

3 Exam-style questions

3.1 Explain one impact of a software developer acting **unethically**. [2]

3.2 (a) State one thing copyright **does** protect, and (b) one thing it does **not** protect. [2]

3.3 Compare **proprietary** and **open-source** software licences. [3]

3.4 A school wants software it can install free on all its PCs and adapt for its own use. State a suitable licence type and justify your choice. [2]

3.5 Explain **two** reasons a computing professional might join a **professional ethical body** (such as the BCS). [2]

3.6 A school introduces an AI tool that marks students' essays and suggests improvements.

(a) **Describe** two **social** impacts of students using AI to complete their homework. [4]

(b) **Describe** one **ethical** impact of the school using AI to mark work. [2]

(c) **Give** three ethical considerations for a student using their **personal** computer to connect to the school network. [3]

(d) The AI was trained on essays from one country only. **Explain** why this could make its marking unfair, and **state** what the developers should do about it. [3]

(e) A teacher argues that the school should publish how the AI reaches its decisions. **Explain** one benefit and one drawback of doing so. [2]
