

7 Ethics and Ownership – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English	Write it 3 times (English)
Ethics	_____
privacy	_____
Intellectual prop- erty	_____
Copyright	_____
patent	_____
software licence	_____
open-source	_____
freeware	_____
shareware	_____
Artificial intelli- gence	_____
bias	_____

Recall

Computers raise questions of right and wrong, and of who owns software and data. You have used apps, games and websites made by other people.

At AS we look at ethics, at owning software (licences), and a little about artificial intelligence.

New ideas

Read these first. Each idea has a short worked example. Then do the Practice.

■ 1 Ethics and privacy

Ethics means acting responsibly with computers – protecting people’s **privacy**, keeping data safe, and not using it in ways people did not agree to.

Worked example. A fitness app that quietly sells users’ location data to advertisers breaks their privacy – even if the app itself works perfectly.

■ 2 Owning software and ideas

Intellectual property is something a person created with their mind – a program, a design, a song.

- **Copyright** protects a created work (it applies automatically).
- A **patent** protects a new invention.
- A **software licence** sets out how you may use a program:
 - **open-source** – the source code is shared and may be changed and re-shared;
 - **freeware** – free to use, but the source code is not shared;
 - **shareware** – free to try for a limited time, then you pay.

Copyright

automatic — no need to apply
protects works: code, text,
images, music
lasts a long time

Patent

must be applied for
protects an invention
or process
lasts about 20 years

proprietary
pay to use
source closed

shareware
try free,
then pay

freeware
free to use
source closed

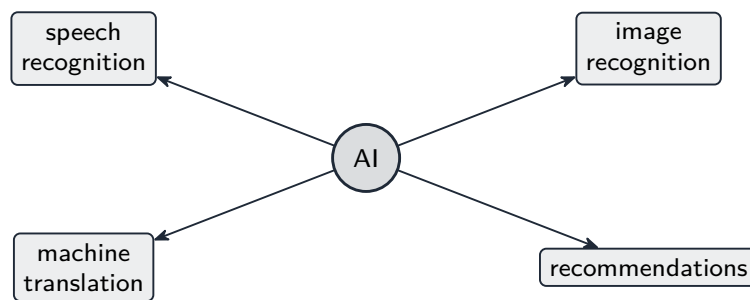
open-source
free
source shared

Worked example. With an open-source program you may read its code, change it, and share your version; with freeware you may use it for free but cannot see or change the code.

Watch out: “free to use” (freeware) is not the same as “open-source” – freeware is still free, but it keeps its source code hidden.

■ 3 Artificial intelligence

Artificial intelligence lets a computer learn patterns from data and make decisions. It is powerful and useful, but it can show **bias** if the data it learns from is unfair or incomplete.



Worked example. A face-recognition system trained mostly on one group of faces may work poorly on others – that unfair result is bias coming from the training data.

Practice

7.1 State what is meant by intellectual property. [1]

7.2 Explain what is meant by bias in an AI system. [1]

7.3 State what each of copyright and a patent protects. [2]

7.4 Give one difference between open-source software and freeware. [2]

7.5 Give one ethical concern about a company collecting people's personal data. [2]

7.6 A student copies an open-source library into their project but removes the author's name and licence. Explain why this is wrong, even though the code was free to use. [2]

7.7 Challenge. A hospital wants to use AI to decide which patients to treat first. Give one benefit and one ethical risk. [2]
