

Exercise walk-through

Ethical and Social Issues Around Data Collection ■ 4.1

eXercise

You must be able to

- describe how programs collect, store, and use large amounts of **data** 数据
- explain why **privacy** 隐私 matters when personal data is gathered
- discuss the risk of **bias** 偏见 when a data set is unrepresentative

Method — Data and privacy

Programs can collect, store, and process **huge** amounts of data. When that data is **personal**, **privacy** matters — it can be misused if exposed or shared without consent.

Method — Bias in data

If a data set does **not represent everyone fairly**, conclusions drawn from it can be **biased**, harming under-represented groups.

Practice 2.1 ■ 1 mark

State why privacy matters when collecting personal data.

Solution 2.1

Method: Data and privacy

Worked steps

personal data can be misused if it is exposed or shared without consent **B1**.

Practice 2.2 ■ 1 mark

State one risk if a data set does not represent everyone fairly.

Solution 2.2

Method: Bias in data

Worked steps

the conclusions can be biased and unfair to under-represented groups **B1**.

Practice 2.3 ■ 1 mark

State one responsibility when handling collected data.

Solution 2.3

Worked steps

protect privacy, store data securely, or use representative data (any one) **B1**.

Exam-style 3.1 ■ 1 mark

A data set that leaves out some groups can introduce

A speed

B bias

C encryption

D an array

Solution 3.1

Method: Bias in data

A speed

B bias



C encryption

D an array

Worked steps

B.

Exam-style 3.2 ■ 1 mark

Collecting personal data raises concerns about

- A** privacy
- B** compilation
- C** casting
- D** recursion

Solution 3.2

Method: Data and privacy

A privacy



B compilation

C casting

D recursion

Worked steps

A.

Exam-style 3.3 ■ 1 mark

An app collects users' location data.

- (a) State one privacy concern.
- (b) State one risk of an unrepresentative data set.
- (c) State one safe practice for handling the data.

Solution 3.3

Method: Data and privacy

Worked steps

(a) users' movements could be tracked or exposed **B1**. (b) biased or unfair results **B1**. (c) collect only what is needed, secure it, and get consent (any one) **B1**.