

Exercise walk-through

Collaboration ■ 1.1

eXercise

You must be able to

- explain how **collaboration** 协作 and diverse perspectives improve a solution and reduce **bias** 偏见
- apply **pair programming** 结对编程 (a driver and a navigator)
- describe giving and receiving constructive **feedback** 反馈
- explain why consulting **users** 用户 helps a program meet real needs

Method — Why collaborate

A team with **diverse perspectives** spots more problems, produces better solutions, and reduces **bias** that one person might miss.

Method — Pair programming

Two people share one workstation: the **driver** types the code, and the **navigator** reviews it and suggests direction. They swap roles regularly.

Method — Feedback and users

Constructive feedback during development catches issues early; consulting **users and stakeholders** keeps the program aimed at real needs.

Practice 2.1 ■ 1 mark

State one benefit of collaboration when developing a program.

Solution 2.1

Worked steps

any one of: better solutions, fewer errors, reduced bias, more ideas **B1**.

Practice 2.2 ■ 2 marks

Describe the two roles in pair programming.

Solution 2.2

Method: Pair programming

Worked steps

the driver types the code; the navigator reviews it and guides the direction **B1** **B1**.

Practice 2.3 ■ 1 mark

State why consulting users helps a program.

Solution 2.3

Method: Feedback and users

Worked steps

it keeps the program aimed at users' real needs **B1**.

Exam-style 3.1 ■ 1 mark

In pair programming, the person who types the code is the

A navigator

B driver

C tester

D manager

Solution 3.1

Method: Pair programming

A navigator

B driver 

C tester

D manager

Worked steps

B.

Exam-style 3.2 ■ 1 mark

Diverse perspectives in a team help to reduce

A speed

B bias

C cost

D memory use

Solution 3.2

Method: Why collaborate

A speed

B bias



C cost

D memory use

Worked steps

B.

Exam-style 3.3 ■ 1 mark

A team builds an app without asking any users for input.

- (a) State one risk of doing this.
- (b) State one collaboration practice that would help.
- (c) State one benefit of that practice.

Solution 3.3

Method: Why collaborate

Worked steps

(a) the app may not meet users' real needs **B1**. (b) consult users, or use pair programming (any one) **B1**. (c) fewer errors, or a program that better fits its purpose **B1**.