

Exercise walk-through

Suspicious Website Logins ■ 1.2

eXercise

You must be able to

- identify signs of an online password attack in a log
- explain why weak, patterned passwords fail
- recommend stronger authentication: long unique passwords and **MFA** 多因素身份验证

Method — Signs in the log

An online password attack shows many failed logins in a short time, logins at unusual hours, or logins from unknown devices.

Method — Making authentication stronger

Use long, random, unique passwords (a password manager helps), avoid names and dates, and enable multifactor authentication so a stolen password alone is not enough.

Practice 2.1 ■ 2 marks

State two signs, visible in a log, of an online password attack.

Solution 2.1

Method: Signs in the log

Worked steps

any two of: many failed logins in a short time **B1**; logins at unusual hours **B1**;
logins from unknown devices.

Practice 2.2 ■ 2 marks

Explain why a password like Summer2024! is weak.

Solution 2.2

Worked steps

it follows a common pattern - word + year + symbol **B1** - that an adversary's dictionary of guesses expects **B1**.

Practice 2.3 ■ 2 marks

State two ways to make authentication stronger.

Solution 2.3

Method: Making authentication stronger

Worked steps

any two of: use long/random/unique passwords **B1**; use a password manager; enable MFA **B1**.

Exam-style 3.1 ■ 1 mark

Which log pattern most strongly suggests an online password attack?

- A** one successful login
- B** many failed logins in a short time
- C** a file download
- D** a printer coming online

Solution 3.1

Method: Signs in the log

- A one successful login
- B many failed logins in a short time
- C a file download
- D a printer coming online



Worked steps

B. a burst of failed logins signals guessing.

Exam-style 3.2 ■ 1 mark

Which is the strongest password?

- A** your dog's name
- B** P@ssword!
- C** a 16-character random string
- D** your birthday

Solution 3.2

A your dog's name

B P@ssword!

C a 16-character random string



D your birthday

Worked steps

C. long + random + unique beats any pattern.

Exam-style 3.3 ■ 1 mark

A company wants to reduce account takeovers.

- (a) Name one authentication improvement they could require.
- (b) Explain how it helps even if a password is stolen.

Solution 3.3

Method: Making authentication stronger

Worked steps

(a) multifactor authentication / MFA **B1**. (b) MFA needs a second factor **B1**, so a stolen password alone cannot log in **B1**.