Lab 06

1. Bitwarden password

I created five passwords with the Bitwarden Password Generator and tested them using the Bitwarden Password Strength Tester.

Generated passwords:

G1 (8 letters): **frTaQbLm**

- very weak, needs more characters

G2 (12 chars, letters + numbers): **M4tq92LdB71c**

- medium strength, could be longer

G3 (16 chars, letters + numbers + special chars): **P9!vQ3ac#T2mR7kL**

- strong, suitable for most accounts

G4 (24 chars, full charset): **sE7!pA4#Lm2@Qx9Vr5$Nt3Kd**

- very strong, ideal for important accounts

G5 (passphrase, 4 words): **solar-river-orange-station**

- strong if words are random; adding a fifth word increases security even more

Length improves password strength the most. Special characters help, but long passphrases can be both strong and easy to remember.

2. MFA Setup (TOTP)

Service used: GitHub

App used: Bitwarden Authenticator (TOTP)

Steps:

- Opened GitHub -> Security.

- Enabled Two-Factor Authentication.

- Selected "Authenticator App".

- Scanned QR code with Bitwarden.

- Entered generated 6-digit TOTP code.

- Saved fallback recovery codes.

Why is TOTP safer than SMS?

Because codes are generated directly on your device and cannot be intercepted or SIM-swapped like SMS.

What if you lose access to your authenticator?

You must use recovery codes or restore Bitwarden on another device. Otherwise, access may be lost.

Do all services support TOTP?

No. Some rely only on SMS/email because of older systems or limited MFA support.

3. Reflection

How does the security score increase as you add length?

Longer passwords significantly increase security.

How do special characters affect the score?

Special characters help, but length is still the most important factor.

How does a "passphrase" score compare to a classic password?

Passphrases are strong, user-friendly, and good for everyday accounts.

Which password would you recommend for everyday use and why?

Best practice: use a passphrase for daily login and a long random password for sensitive accounts.