**🔐 Password Strength Evaluation Report**

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**🔸 1. Passwords Created with Varying Complexity**

**🔸 2. Tools Used for Password Strength Testing**

**Password Strength Checker Tool:**

* 🔗 https://www.security.org/how-secure-is-my-password/
* 🔗 https://password.kaspersky.com/

**🔸 3. Password Strength Analysis**

| **Password** | **Strength** | **Estimated Crack Time** | **Notes** |
| --- | --- | --- | --- |
| password123 | Very Weak | < 1 second | Common pattern, no symbols |
| P@ssword1 | Weak | ~4 hours | Slightly better, predictable |
| ILovePizza@2025 | Strong | ~200 years | Passphrase + special char |
| Xy!7gW93& | Strong | ~300 years | Random + symbols + numbers |
| 9#Tf\*Qw@8Lp! | Very Strong | 500+ years | High complexity & length |

**🔸 4. Best Practices Learned from the Evaluation**

* Use at least **12 or more characters**
* Combine **uppercase**, **lowercase**, **numbers**, and **symbols**
* Avoid using **common words**, names, or patterns
* Use **passphrases** or **random characters**
* Do **not reuse** passwords on multiple websites
* Use a **password manager** to save complex passwords

**🔸 5. Common Password Attacks Researched**

| **Attack Type** | **Description** |
| --- | --- |
| **Brute Force** | Tries every possible combination until the correct one is found. Short/simple passwords are vulnerable. |
| **Dictionary Attack** | Uses a pre-made list of common passwords (like "123456", "qwerty") to guess. Fast and effective on weak passwords. |

**🔸 6. Summary: Password Complexity & Security**

* Password complexity is **directly linked to security**.
* **Short or simple passwords** are easy to crack using brute force or dictionary attacks.
* **Long, random, and complex passwords** offer **strong protection**.
* **Security tools** recommend passwords that are unique, unpredictable, and hard to guess.

**Conclusion:**  
A strong password is your **first defense against cyber attacks**. Using a mix of characters and increasing password length drastically improves your digital security.