

REPORT

→ Password, their strengths and feedback details of the tool.

<u>Password</u>	<u>Strength</u>	<u>Length</u>	<u>Time to Crack</u>	<u>Out of (N,S,UC,LC)</u>
jinendrasharma	Strong	14	2 months	2
asdf@#Jinendra	V.Strong	14	42 yrs	3
Jine\$%ndra12	V.Strong	12	759 yrs	All
Rishi@#\$ihSiR	V.Strong	13	23 yrs	3
Rishi@#23ihSiR	V.Strong	14	14 centuries	All
Jinendra@12345246	V.Strong	17	20 centuries	All
Jinendra123456789	Medium	17	2 days	3
Jine123456789ndra	Strong	17	7 months	3
123456789Jinendra	Medium	17	2 days	3
12345Jinendra6789	Strong	17	1 month	3
12345Jine6789ndra	V.Strong	17	8 yrs	3
12Ji345ne67ndra89	V.Strong	17	90 Billion yrs	3

Important Note- N, S, UC, LC stands for Numbers, Symbols, Uppercase, Lowercase respectively.

2. Best practices to create strong passwords

- Password should at least 12 characters long.
- Should include numbers, symbols, uppercase and lowercase letters.
- Should be random and unpredictable.
- Avoid Personal information in your password.
- Check strength of password online then only use it.
- Use MFA(Multi Factor authentication) to add a extra layer of security to your account from being hacked.

3. How Complexity Strengthens Security

1. Resistance to Brute-Force Attacks

- Brute-force attacks try every possible combination.
- A simple 6-character password with only lowercase letters has **308 million possible combinations**.
- A 12-character password mixing uppercase, lowercase, numbers, and symbols has **over 10²¹ combinations**, making brute-force practically impossible.

2. Defense Against Dictionary Attacks

- Attackers often use lists of common words or leaked passwords.
- Adding complexity (symbols, numbers, mixed case) makes passwords less predictable and less likely to appear in these lists.

3. Protection from Credential Stuffing

- Reused or simple passwords are easily exploited in credential-stuffing attacks.
- Complex, unique passwords reduce the chance of being compromised across multiple accounts.

4. Policy Enforcement

- Systems like Windows enforce complexity rules (e.g., disallowing usernames or full names in passwords) to prevent weak, guessable credentials.

Brute force and Dictionary attacks—

1.Brute force attack- It is basically a type of attack in which attacker tries every possible combination of password to crack the password. It purely depends on computing power and inefficient as well.

2.Dictionary attack- In this type of attack, we give a list of word to the attacking software and it tries each password can be formed from the words are present in the dictionary and it is a better option than brute force attack. But it is also inefficient for lengthy and random passwords.

Appendix







