

Password Analyzer Tool Report

1. Introduction

The Password Analyzer Tool is designed to evaluate the strength of user-provided passwords. With the increasing number of cyber threats, it is essential for users to create strong passwords that are difficult to guess or crack. This tool provides feedback on password strength and offers suggestions for improvement.

2. Objectives :-

To assess the strength of passwords based on various criteria.

To provide actionable feedback for creating more secure passwords.

3. Algorithm :-

The password analysis algorithm based on the following criteria:

1) Length Check :-

Description :- Passwords should be a minimum of 8 characters long.

Longer passwords are generally more secure as they increase the number of possible combinations.

2) Character Variety Check :-

Description :- The algorithm checks for the presence of:

*Uppercase letters (A-Z)

* Lowercase letters (a-z)

*Digits (0-9)

Special characters (e.g., !@\$%^&)

A diverse character set increases password complexity and makes it harder to crack.

3)Common Patterns Check :-

Description: The algorithm compares the password against a predefined list of common passwords (e.g., "123456", "password").

Many users choose easily guessable passwords, which significantly reduces security.

4. Effectiveness of the Algorithm :-

1) Strength Scoring :-

Description :- The tool assigns a strength score based on the criteria mentioned above. A higher score indicates a stronger password.

Example :- A password that meets all criteria may receive a score of 5, while a common password may receive a score of 1 or lower.

2) User Feedback :-

Description :- The tool provides users with specific feedback on how to improve their passwords.

Example :- If a password lacks special characters, the tool may suggest adding them to enhance security.

5. Conclusion :-

The Password Analyzer Tool serves as a valuable resource for users looking to enhance their password security. By providing a comprehensive analysis of password strength and actionable feedback, the tool empowers users to create stronger passwords, thereby reducing the risk of unauthorized access to their accounts.