

Readme.md

Project: Password Strength Checker

A Python project that analyses the strength of a password using entropy, pattern detection, common password checks, personal-info checks, and more. It provides a score (0–100), strength label, warnings, feedback, and an estimated crack time based on entropy.

Project Overview:

This project is a Password Strength Checker built using Python. It evaluates a user-given password based on:

Length

Character variety (uppercase, lowercase, numbers, symbols)

Detection of repeated, sequential, and keyboard patterns

Whether the password contains personal information

Whether it is a commonly used password

Estimated entropy and crack time

The script runs in the terminal and gives detailed feedback to help users create strong, secure passwords.

Features:

Detects common, reused passwords

Identifies sequential patterns (e.g., abc, 123)

Detects repeated characters (e.g., aaaa)

Detects keyboard patterns (e.g., qwerty, asdf)

Checks if the password contains parts of the username, name, or email

Calculates entropy in bits

Estimates password crack time

Generates a strength score & category

Provides warnings & improvement tips

Technologies / Tools Used:

Python 3.x

Built-in libraries: re, math, typing

Steps to Install & Run the Project:

1. Clone the repository

```
git clone https://github.com/nima25bce11335/VITyarthi-Project.git  
cd password-strength-checker
```

2. Run the Python script

```
python password_checker.py
```

3. Enter passwords when prompted

Enter a password: MyStrongPass!23

To exit:

quit

Instructions for Testing:

You can test the checker using:

✓ Weak passwords

123456

password

aaaaaa

asdfgh

✓ Medium passwords

Nima1234

helloWorld12

✓ Strong passwords

A\$7gH@9lZ2!

MySafePassword_2025!

Observe:

Score

Strength label

Entropy

Crack time

Feedback & warnings
