statement.md

Problem Statement

Users frequently create weak passwords that are vulnerable to attacks. There is a need for a simple tool that can generate secure passwords and evaluate the security level of existing passwords according to recommended guidelines.

Scope of the Project

This project provides a command-line based system that allows users to:

- Generate strong, random passwords of customizable length

- Evaluate the strength of any given password

- Receive actionable feedback to enhance password security

The project is limited to character-based password evaluation and does not store or transmit any data.

Target Users

- Students learning Python programming

- Individuals needing a quick way to generate strong passwords

- Users wanting to assess the strength of their existing passwords

- Beginner-level programmers interested in security-related tools

High–Level Features

- Menu–driven interface for ease of use.

- Random password generator with customizable length.

- Password strength evaluation based on multiple criteria.

- Feedback messages suggesting improvements.

- Input validation for safer and error–free interaction.