

**“Google Gemini Innovators Hub”**

**Problem Statement Report**

**Team Leader Name :K.Asish**

**Team Name : THE INNOVATORS**

**Dept : AI&DS**

**Year : II**

**Problem Statement Id : HX24\_**

**Problem Statement : – Make a password strength checker that suggests improvements.**

**Proposed Solution :** (Write a short and clear explanation of how your team plans to solve the problem.)

**We plan to build a Python-based system that evaluates the strength of a user’s password by checking for length, uppercase and lowercase letters, numbers, and special characters. The tool will provide a strength rating and suggest specific improvements to help users create stronger, more secure passwords.**

**Objective / Goal :** (What is the main aim of your project?)

**The main aim of this project is to help users create strong and secure passwords by evaluating password strength and providing actionable suggestions for improvement.**

**Key Features / Highlight :** (List 3–5 important features of your idea or project.)

1. **Password Strength Evaluation – Analyzes passwords based on length, uppercase/lowercase letters, numbers, and special characters.**
2. **Actionable Suggestions – Provides clear recommendations to improve weak passwords.**
3. **Strength Rating – Categorizes passwords as Weak, Moderate, Strong, or Very Strong.**
4. **Interactive Interface – Users can input passwords and receive instant feedback.**
5. **User-Friendly – Simple and easy-to-use tool suitable for all users.**

**Expected Outcome / Output :** (What will be the result or benefit of your solution? Who will be helped by this project?)

**The project will provide users with a clear assessment of their password strength and practical suggestions to make it stronger. As a result, users will be able to create more secure passwords, reducing the risk of unauthorized access to their accounts. This tool will help students, employees, and anyone who wants to improve their online security.**

**Tools / Technologies Used :** (Mention the main tools, languages, or platforms you plan to use.)

* **Programming Language: Python**
* **Libraries: re (regular expressions) for pattern matching**
* **Platform: Command-line interface (CLI) for user interaction**
* **Optional Tools: GUI frameworks like Tkinter or web frameworks like Flask (for enhanced versions)**