

## **Project Overview: Password Manager System**

### **Objective:**

The goal of this project is to create a Python-based password manager system that allows users to securely manage multiple password sets, each with three levels of authentication: textual, graphical, and behavioral passwords. This system ensures enhanced security by requiring the user to pass through all three authentication levels to access an account.

### **Key Features:**

#### **1. Create a New Secure Password Set:**

- The user can create a new password set and assign it a name (e.g., "Email", "Bank").
- For each of the three password types—textual, graphical, and behavioral—the user has two options:
  1. Provide their own password : The user manually inputs a password of their choice.
  2. Use a strong password suggestion : The system generates a strong, random password for the user.
- Once the passwords are set, they are stored securely within the system.

#### **2. Login to an Account:**

- The system displays a list of all created accounts, allowing the user to choose one for login.
- To log in, the user must correctly enter the passwords for all three authentication levels (textual, graphical, behavioral).
- If the user successfully enters all three passwords, they are granted access; otherwise, access is denied.

#### **3. Delete a Password Set:**

- The user can delete any password set from the system.
- The system lists all available accounts, and the user selects the account they wish to delete.
- Once deleted, the password set is permanently removed from the system.

#### **4. Exit the System:**

- The user can exit the password manager system at any time by selecting the "Exit" option.

### **Implementation Details:**

- Password Storage : Passwords are stored in a simulated database (a dictionary) within the program. In a real-world application, this storage mechanism would need to be more secure, involving encryption and possibly database storage.
- User Interaction : The system provides a simple command-line interface for interacting with the password manager, allowing users to create, manage, and delete password sets easily.
- Security Considerations : While this is a basic implementation, the system's three-level password setup provides a stronger layer of security compared to traditional single-password systems.

### Potential Enhancements:

- Encryption : Implementing encryption for stored passwords to ensure they are securely stored.
- User Interface : Developing a graphical user interface (GUI) to make the system more user-friendly.
- Additional Authentication Methods : Integrating more advanced authentication methods such as biometric verification or multi-factor authentication (MFA).

This project serves as a foundational tool for managing passwords securely and can be further expanded to meet more complex security requirements.

### ScreenShots:

Start

```
PS C:\Users\Maggi\Desktop\Hackathins\aug-21> python pass.py

Password Manager
1: Create a new secure password set
2: Login to an account
3: Delete a password set
4: Exit
Choose an option (1-4): █
```

Options:

1)

```
Choose an option (1-4): 1
Enter the name for the password set (e.g., 'Email', 'Bank', etc.): Bank

Textual Password:
1) Provide your own password
2) Use a strong password suggestion
Choose an option (1-2): █
```

You can choose 2 options:

```
Choose an option (1-4): 1
Enter the name for the password set (e.g., 'Email', 'Bank', etc.): Bank

Textual Password:
1) Provide your own password
2) Use a strong password suggestion
Choose an option (1-2): 1
Enter your textual password: Meghana

Graphical Password:
1) Provide your own password
2) Use a strong password suggestion
Choose an option (1-2): 2
Suggested graphical password: 02F,.6X7FLME

Behavioral Password:
1) Provide your own password
2) Use a strong password suggestion
Choose an option (1-2): 1
Enter your behavioral password: Maggi-192

Password set for 'Bank' created successfully!
```

Now option 2:

```
Password Manager
1: Create a new secure password set
2: Login to an account
3: Delete a password set
4: Exit
Choose an option (1-4): 2

Available accounts:
1: Bank
Select an account by number: 1
Enter your textual password: Meghana
Enter your graphical password: 02F,.6X7FLME
Enter your behavioral password: Maggi-192
Login successful!
```

Option 3:

```
Password Manager
1: Create a new secure password set
2: Login to an account
3: Delete a password set
4: Exit
Choose an option (1-4): 3

Available accounts:
1: Bank
Select an account to delete by number: 1
Password set for 'Bank' deleted successfully!

Password Manager
1: Create a new secure password set
2: Login to an account
3: Delete a password set
4: Exit
Choose an option (1-4): 2
No accounts available to log in.
```

Option 4 is exit.