Password manger

Password Manager Using Python Project Documentation

Overview
This Python-based password manager allows users to create an account with a username and password, and then log in using their credentials. The passwords are hashed for security purposes using the SHA-256 algorithm.

Dependencies
- `hashlib` : This module from Python's standard library is used for secure hash and message digest algorithms, such as SHA256.
- `getpass` : This module is used to safely prompt the user for a password without echoing it on the console.

Functions

`create_account()`
Prompts the user to enter a desired username and password. It checks if the username already exists or if any of the fields are empty. If all checks pass, it hashes the password and stores it in the `password_manager` dictionary with the username as the key.

Parameters:
None

Returns:
None

`login()`
Asks the user for their username and password. It hashes the entered password and compares it against the stored hash in the `password_manager` dictionary. If they match, login is successful; otherwise, it informs the user of invalid credentials.

Parameters:
None

Returns:
None

`main()`

The main driver function. It welcomes the user to the Password Manager and provides them with options to either create an account, log in, or exit the program. It loops continuously until the user decides to exit by entering '0'.

Parameters:
None

Returns:
None

Usage
To use this password manager, run the script in a Python environment. Follow the prompts to create an account or log in.

1. Enter `1` to create a new account.
2. Enter `2` to log in to an existing account.
3. Enter `0` to exit the password manager.

Security Note
While this password manager uses hashing to protect passwords, it does not implement all the features required for a production-ready password manager, such as salted hashes, encryption, or persistent storage. Use this project for educational purposes and not as a real-world password management solution.

Example

```
Welcome to the Password Manager
Enter 1 to create an account, 2 to login, or 0 to exit: 1
Enter Your Desired Username: johndoe
Enter Your Desired Password:
Account Created Successfully
Enter 1 to create an account, 2 to login, or 0 to exit: 2
Enter Your Username: johndoe
Enter Your Password:
Login Successful
Enter 1 to create an account, 2 to login, or 0 to exit: 0
Exiting the Password Manager
```

Conclusion
This simple password manager demonstrates basic user account creation and login functionality using Python. It is intended as a starting point for understanding how password hashing works and should be further developed before any practical use.