Project 30: Phonetic Alphabet Converter

Description

This project is a phonetic alphabet converter that translates a given word into its phonetic representation based on the NATO phonetic alphabet. The program reads a CSV file containing the phonetic alphabet and constructs a dictionary to map letters to their phonetic codes. Users input a word, and the program outputs the corresponding phonetic codes. It includes error handling to ensure only valid letters are processed.

Key Technologies

- **Python:** Used for implementing the phonetic conversion logic and handling user input.
- **Pandas Library:** Utilized to read the CSV file and create the phonetic dictionary.
- **Concepts Covered:** File reading, dictionary creation, list comprehension, and error handling.
- **Unique Features:** Provides an interactive way to convert words into their phonetic representations with error handling for invalid inputs.

Password Manager

Description

This project is an advanced password manager application that provides functionalities for generating, saving, and retrieving passwords. The application uses a graphical user interface (GUI) built with Tkinter, and it saves password data in a JSON file. The user can generate random passwords, store them along with associated website and email details, and retrieve stored passwords by searching for the website.

Key Technologies

- **Python:** Used for implementing the password generation logic, user interface, and data management.
- **Tkinter:** Utilized to create the GUI for user interaction.
- **Random Module:** Employed to generate random characters for password creation.
- **JSON Module:** Used for reading from and writing to the JSON file for data storage.
- **Pyperclip Module:** Used to copy generated passwords to the clipboard for easy access.
- **Concepts Covered:** GUI development, file handling, data serialization, and error handling.
- **Unique Features:** Includes functionality for password generation, saving credentials to a JSON file, retrieving stored credentials, and copying passwords to the clipboard.