URL SHORTENER PROJECT:

ABOUT PROJECT:

URL Shortener:

Description: The URL shortener is a Python project that converts long URLs into shorter, more manageable links. It takes a long URL as input, generates a unique shortened URL, and redirects users to the original URL when the shortened link is accessed.

Scope: The scope of this project involves designing a user interface to input long URLs and display the shortened links, implementing a database to store the mapping between original and shortened URLs, and developing functions to generate unique shortened URLs and handle redirection.

Execution:

In the Above program is made with by use of some of websites like Flask,and Sqlite3,String ,Random modules.

Flask:

The Flask module is a web framework for Python that allows you to build web applications. It provides tools, libraries, and mechanisms to handle HTTP requests, route URLs to appropriate functions, manage sessions, and more. Flask follows the WSGI (Web Server Gateway Interface) specification and can be easily integrated with other libraries and frameworks.

To use the Flask module, you need to have it installed. You can install Flask using pip, the Python package manager, by running the following command:

- pip install Flask

Once Flask is installed, you can import it into your Python script and start building your web application using Flask's features and functions. The code you provided is an example of a Flask application that implements a URL shortener. It defines routes, handles HTTP requests, interacts with a SQLite database, and renders templates to generate web pages.

To run the Flask application, you typically execute the script from the command line. For example, if your script is named `app.py`, you can run it using the command:

- python app.py

This will start the Flask development server, and your application will be accessible at the specified host and port (usually `http://localhost:5000/` by default).

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Please note that the code you provided is missing some parts related to the HTML template files (`index.html`). Make sure you have the necessary template files in a `templates` folder in the same directory as your script for the application to work properly.

Sqlite3:

The **sqlite3** module in Python provides an interface for working with SQLite databases. SQLite is a lightweight, serverless, and self-contained relational database engine. It allows you to create, query, and manage databases using SQL (Structured Query Language).

The **sqlite3** module comes bundled with Python, so you don't need to install any additional packages. To use the **sqlite3** module, you can import it in your Python script using the following line:

- Import sqlite3

To run the Url Shortener program :

1. Create a new Python file and save it with a **.py** extension (e.g., **url_shortener.py**).
2. Install the required dependencies using **pip install flask** and **pip install sqlite3**.
3. Run the Python file (**python url_shortener.py**).
4. Open your web browser and go to **http://localhost:5000** to access the URL shortener web application.

Make sure you have Flask and SQLite3 installed before running the code. The code uses Flask to handle web requests and SQLite3 as the database to store URL mappings.