URL Shorter Web Application (Basic)

Introduction :

URL Shorter, allows to reduce long links from Instagram, Facebook, YouTube, Twitter, Linked In and top sites on the Internet, just paste the long URL and click the Shorten URL button. On the next screen, copy the shortened URL and share it on websites, chat and e-mail. After shortening the URL, check how many clicks it received.

The project consists of 2 parts:

1. Frontend (done with HTML, CSS and Bootstrap)
2. Backend - Flask (Python)
3. Backend - Database ORM

Front-End Information:

The front-end consists of 2 web pages:

1. Home Page - A page will be shown where the user can enter the URL he/she wants to shorten. After the 'shorten' button is clicked, the shortened URL is displayed in the text-field which the user can copy using the copy button.
2. History Page - Containing all the Original URLs along with the Shortened URLs.

Project Workflow:

1. Users can enter the URL they want to shorten. After entering a URL, click on the 'Shorten' URL button to display the shortened URL in the following text-field which can be copied by clicking on the copy button.
2. After the 'Shorten' button is clicked, the URL that is entered is saved in our database with the shortened URL. It is saved in the database so that the user can look into the previous URLs he entered in our web-app with their shortened URL.
3. Try to verify the URL entered by the user is correct or not. (Do some googling to find out how to make it possible)

Python Programming language:

Python is an interpreted high-level general-purpose programming language. Its design philosophy emphasizes code readability with its use of significant indentation. Its language constructs as well as its object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects. Python is dynamically-typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly, procedural), object-oriented and functional programming. It is often described as a "batteries included" language due to its comprehensive standard library

Flask (Web Framework):

Flask is a micro web framework written in Python. It is classified as a micro framework because it does not require particular tools or libraries. It has no database abstraction layer, form validation, or any other components where pre-existing third-party libraries provide common functions. However, Flask supports extensions that can add application features as if they were implemented in Flask itself. Extensions exist for object-relational mappers, form validation, upload handling, various open authentication technologies and several common framework

HTML5:

HTML5 is a markup language used for structuring and presenting content on the World Wide Web. It is the fifth and last major HTML version that is a World Wide Web Consortium (W3C) recommendation. The current specification is known as the HTML Living Standard. It is maintained by the Web Hypertext Application Technology Working Group (WHATWG), a consortium of the major browser vendors (Apple, Google, Mozilla, and Microsoft).

Cascading Style Sheets (CSS):

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. CSS is designed to enable the separation of presentation and content, including layout, colours, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .CSS file which reduces complexity and repetition in the structural content as well as enabling the .CSS file to be cached to improve the page load speed between the pages that share the file and its formatting. Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device

Database ORM:

ORM stands for **Object-Relational Mapping**, it is a programming technique that *abstracts your code from the database* behind it. In plain English, if you are using ORM and a MySQL database, you could switch to PostgreSQL at any time without changing your code. At all.

Importing Packages:

```
from flask import Flask, redirect, request, render_template, url_for
from flask_sqlalchemy import SQLAlchemy
import random
import string
```

HTML FILES :

1. Home
2. Layout
3. History
4. UrlDisplay

CSS FILES :

1. **1.layout**