**Flask application Documentation**

For the web application task, I used some statistical data gotten from the WHO website. This data specifies the number (in millions) of people in every country in the world that use clean fuel and technology for cooking between the year 2000 and 2018. This statistic is important as it shows a bit, how much the world is adapting to reduce pollution and global warming from the use of polluting fuel. Hence, I included a means for users to compare the adaptability of clean fuel among countries during the period.

**Database Architecture**

I created four tables. The first table schema has 3 columns which are the ID, country name and the timestamp for when it was added to the database. The second, third and 4th columns all have 6 columns which are the ID, countryId (foreign key), year (between 2000 and 2018), area (total area, rural area or urban area), the population in that area and the timestamp for when it was added to the database.

The tables work in a way that the application can scan the first table by passing by Id to get the country and then use that to search and curate data from the other table for that country. Furthermore, the application can easily retrieve data sorted by year, area or countries. The entire process was done with the mindset of not just making data retrieval easy now, but to allow easy extension and manipulation of the database in the future.

**Templates and Routing**

I created five routes for five separate Jinja templates for this application. These routes are index, search\_year, search\_country, country\_detail and compare. All the routes are connected with templates bearing the same names. Perhaps the most interesting route among them is the compare route which gives the user a form where they can compare population data for two different countries at different years. You can also use this to check how much people have adapted to using clean fuel for a single country over some years.

**Installation and running the application**

Please refer to the readme.md for information on how to install the run the application locally on your computer.

**Testing**

Behaviour driven development was used to test that interactions on the website worked as they should. Behave and selenium libraries were used to ensure that pages and routes worked as predicted on user clicks. For instructions on how to run tests, please refer to the readme.md file.

**Deployment**

The application was deployed successfully to Heroku. Gunicorn was installed and used to serve the applications. You can visit the Heroku link here:

<https://pure-shelf-47022.herokuapp.com>