Installation guide:

1. To run this application, you require python installed on your machine. Visit the link below to download python on your machine

   https://www.python.org/downloads/

2. This application requires flask framework. After installing python run below command to install python flask library.

   ```
   >> pip install flask
   ```

3. This application uses python client for google maps API. Please run below command to download library.

   ```
   >> pip install googlemaps
   ```

4. Install SQLite database. Please refer the link below for installation process:

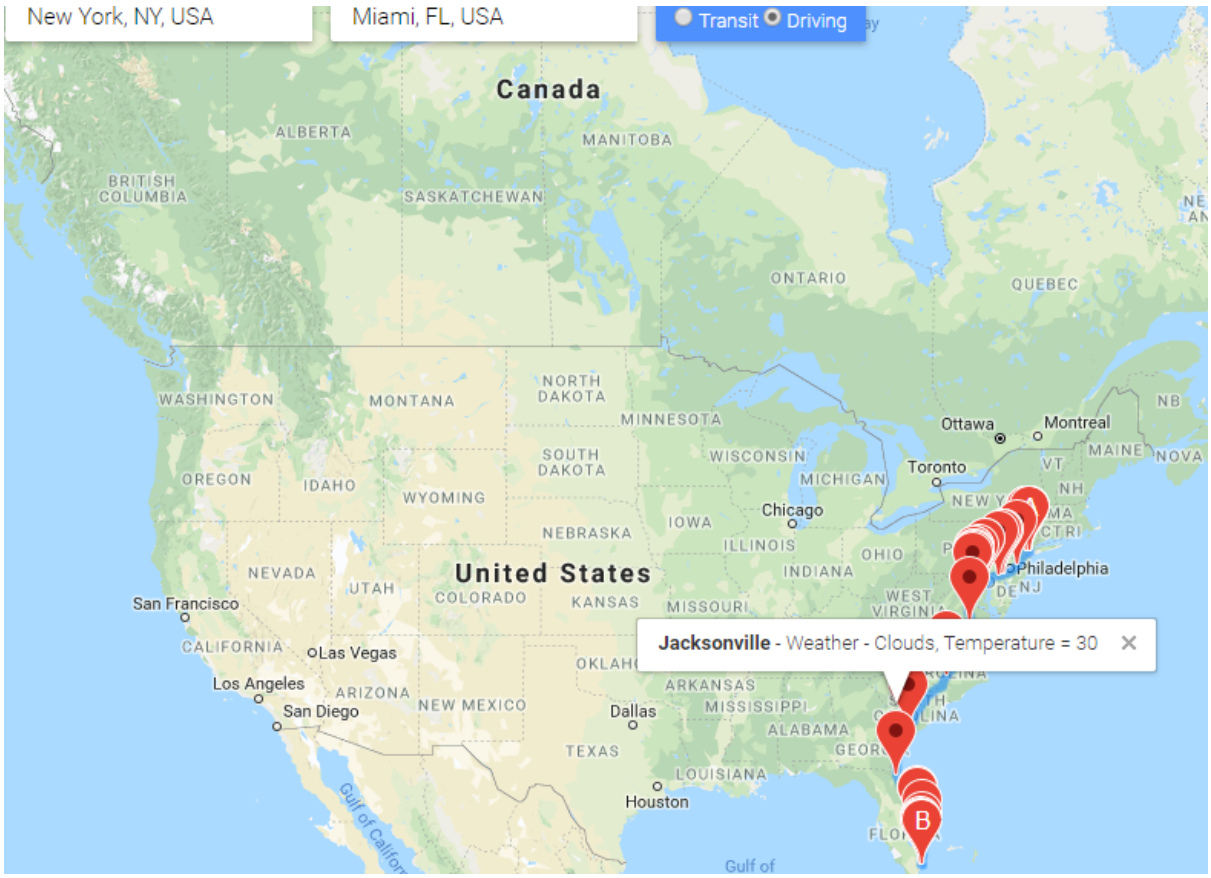
   https://www.sqlite.org/download.html

5. Now you have installed all the dependencies required for an application now it's time to run your application. To run application, browse through folder structure project1 >> p1v1 >> flaskr.

6. Inside the folder you'll find python file 'DirectionAPI.py'. All you have to do is to run this python file and your server will get started. You'll find prompt as shown below. Now open your browser and enter the URL : http://localhost:5000/

   ```
   E:\Distributed Systems\Projects\P1\p1v1\flaskr>py DirectionAPI.py
    * Serving Flask app "DirectionAPI" (lazy loading)
    * Environment: production
      WARNING: Do not use the development server in a production environment.
      Use a production WSGI server instead.
    * Debug mode: on
    * Restarting with stat
    * Debugger is active!
    * Debugger PIN: 233-857-146
    * Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
   ```

SCREENSHOTS:



What To Find Here?

Find cities along the route.

Know weather along the route.

It's better to be prepared than sorry...!

COST SUMMARY:

First, we will run an application which has no database layer. Application layer here will give API calls to Google maps API and open weather API to collect data.

Here, we have to consider three different time cost parameters listed as below:

a. C1 - Time required to get direction from google API
b. C2 - Time required to get city name from Lat, Lang values using geo code reverse API.
c. C3 – Time required to collect weather data for listed cities along the route.

Total cost = C1 + C2 + C3

Diagram given below shows API Cost query:

Request:

```
GET
/routes?origin=Buffalo,%20NY,%20USA&amp;destination=New%20York,%20NY,%
20USA&amp;mode=DRIVING HTTP/1.1
Host: localhost:5000
Cache-Control: no-cache
Postman-Token: 5b435869-4409-4626-be27-d867d640f4f0
```

Time required:

```
Start - 1538722156.3148775
End - 1538722163.0724921
API Query Cost - 6.757614612579346
127.0.0.1 - - [05/Oct/2018 02:49:23] "[37mGET /routes?origin=Buffal
ode=DRIVING HTTP/1.1[0m" 200 -
```