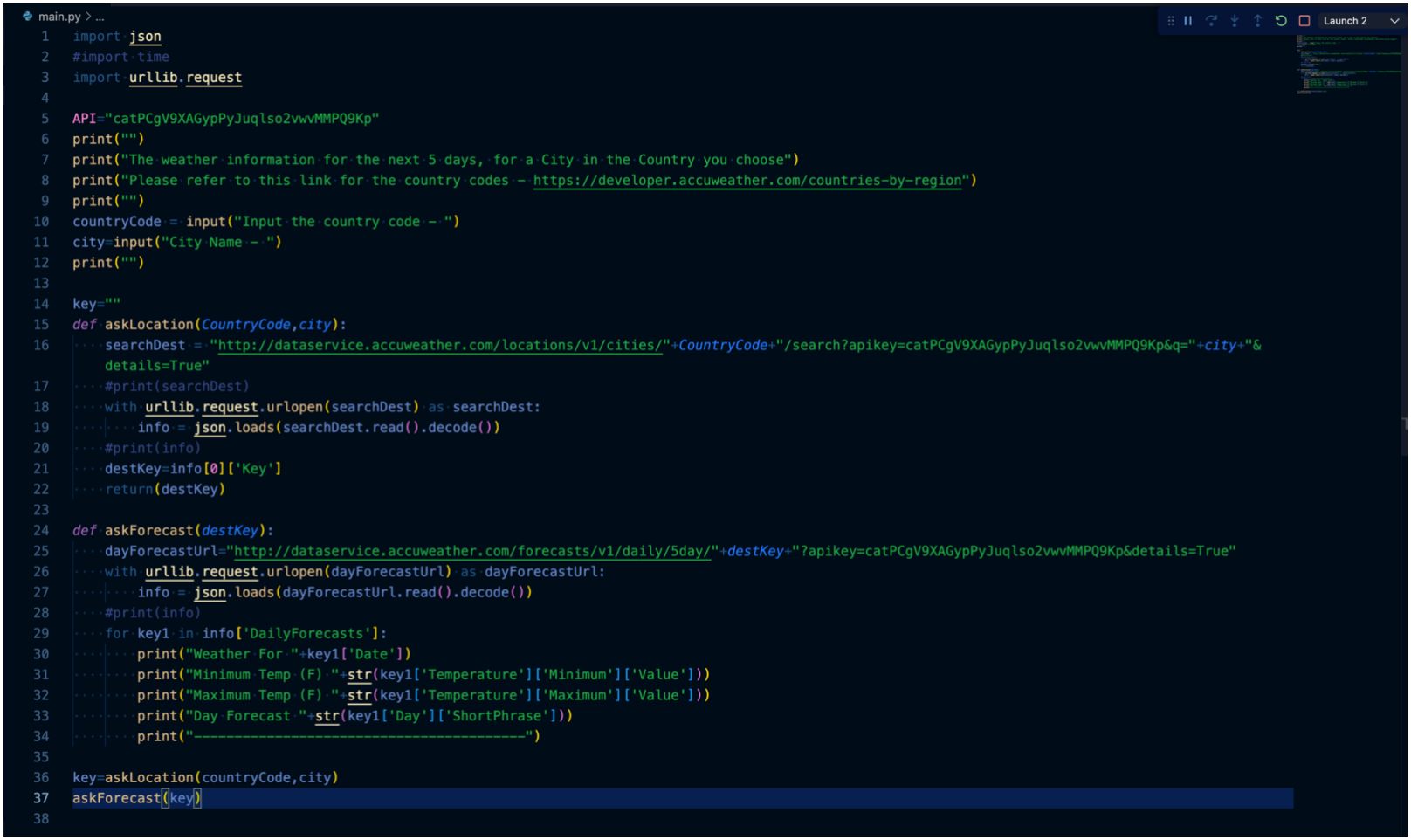
Progress on work with APIs (AccuWeather)



```python
import json
#import time
import urllib.request

API="catPCgV9XAGypPyJuqlso2vwvMMPQ9Kp"
print("")
print("The weather information for the next 5 days, for a City in the Country you choose")
print("Please refer to this link for the country codes - https://developer.accuweather.com/countries-by-region")
print("")
countryCode = input("Input the country code - ")
city=input("City Name - ")
print("")

key=""
def askLocation(CountryCode,city):
    searchDest = "http://dataservice.accuweather.com/locations/v1/cities/"+CountryCode+"/search?apikey=catPCgV9XAGypPyJuqlso2vwvMMPQ9Kp&q="+city+"&
    details=True"
    #print(searchDest)
    with urllib.request.urlopen(searchDest) as searchDest:
        info = json.loads(searchDest.read().decode())
    #print(info)
    destKey=info[0]['Key']
    return(destKey)

def askForecast(destKey):
    dayForecastUrl="http://dataservice.accuweather.com/forecasts/v1/daily/5day/"+destKey+"?apikey=catPCgV9XAGypPyJuqlso2vwvMMPQ9Kp&details=True"
    with urllib.request.urlopen(dayForecastUrl) as dayForecastUrl:
        info = json.loads(dayForecastUrl.read().decode())
    #print(info)
    for key1 in info['DailyForecasts']:
        print("Weather For "+key1['Date'])
        print("Minimum Temp (F) "+str(key1['Temperature']['Minimum']['Value']))
        print("Maximum Temp (F) "+str(key1['Temperature']['Maximum']['Value']))
        print("Day Forecast "+str(key1['Day']['ShortPhrase']))
        print("----------------------------------------")

key=askLocation(countryCode,city)
askForecast(key)
```

1) Researched about country codes and references in the AccuWeather API. (Link to the country references required is attached within the code itself)

2) Acquired the links for the city identifier and 5 day weather on the AccuWeather website : (these are the links to the webpages, not the resource URLs)

   - https://developer.accuweather.com/accuweather-locations-api/apis/get/locations/v1/cities/%7BcountryCode%7D/search

   - https://developer.accuweather.com/accuweather-forecast-api/apis/get/forecasts/v1/daily/5day/%7BlocationKey%7D

3) Had to research extensively to figure out how to use the “requests” library as I have had no previous experience with it. (Documentation provided by you)

```
Learning Resources:
- Flask official documentation: [Flask Documentation](https://flask.palletsprojects.com/en/2.1.x/)
- Requests library documentation: [Requests Documentation](https://docs.python-requests.org/en/latest/)
- HTML and CSS tutorials on w3schools: [w3schools HTML](https://www.w3schools.com/html/) and [w3schools CSS]
(https://www.w3schools.com/css/)
- Bootstrap CSS framework: [Bootstrap](https://getbootstrap.com/) or Bulma CSS framework: [Bulma](https://
bulma.io/)
- OpenWeatherMap API documentation: [OpenWeatherMap API](https://openweathermap.org/api)

Remember to break down the project into smaller tasks, consult the documentation and resources as you progress,
and have fun exploring and learning along the way. Happy coding!
```

4) Made the code more versatile by asking the user to input the country code and city to identify the location key using string concatenation

```
countryCode = input("Input the country code - ")
city=input("City Name - ")
print("")
```

5) Created a function to get the location key, by using the country code and city inputted by the user to fill the resource URL.

```
def askLocation(CountryCode,city):
    searchDest = "http://dataservice.accuweather.com/locations/v1/cities/"+CountryCode+"/search?apikey=catPCgV9XAGypPyJuqlso2vwvMMPQ9Kp&q="+city+"&
    details=True"
    #print(searchDest)
```

6) Used the request library to request all the data from the resource URL generated from the country and city inputted by the user.

```
with urllib.request.urlopen(searchDest) as searchDest:
    info = json.loads(searchDest.read().decode())
```

7) Combed through this data to identify the position of the key, which I then retrieved.

```
destKey=info[0]['Key']
```

8) Created another function to retrieve the actual weather data this time, using the location key gotten earlier

   Once again used concatenation to insert the key generated earlier.

```
def askForecast(destKey):
    dayForecastUrl="http://dataservice.accuweather.com/forecasts/v1/daily/5day/"+destKey+"?apikey=catPCgV9XAGypPyJuqlso2vwvMMPQ9Kp&details=True"
```

9) Similarly used the request library to get the weather data for the next 5 days from the resource URL

```
with urllib.request.urlopen(dayForecastUrl) as dayForecastUrl:
    info = json.loads(dayForecastUrl.read().decode())
#print(info)
```

10) Once again went through all the data outputted by the request function to find few select information I needed (Temp values, forecast).

Printed all the data in a for a loop to iterate over each forecast entry, essentially allowing us to print the date, time, etc for each of the next days until there was no more data left.

```
for key1 in info['DailyForecasts']:
    print("Weather For "+key1['Date'])
    print("Minimum Temp (F) "+str(key1['Temperature']['Minimum']['Value']))
    print("Maximum Temp (F) "+str(key1['Temperature']['Maximum']['Value']))
    print("Day Forecast "+str(key1['Day']['ShortPhrase']))
    print("-------------------------------------")
```

Finally, stored the location key in the key variable and then called the second function to print the forecast for the next 5 days.

```
key=askLocation(countryCode,city)
askForecast(key)
```

OUTPUT –

```
The weather information for the next 5 days, for a City in the Country you choose
Please refer to this link for the country codes - https://developer.accuweather.com/countries-by-region

Input the country code - IN
City Name - Mumbai

Weather For 2023-07-22T07:00:00+05:30
Minimum Temp (F) 79.0
Maximum Temp (F) 84.0
Day Forecast Showers and a heavier t-storm
----------------------------------------
Weather For 2023-07-23T07:00:00+05:30
Minimum Temp (F) 80.0
Maximum Temp (F) 85.0
Day Forecast A shower and t-storm; humid
----------------------------------------
Weather For 2023-07-24T07:00:00+05:30
Minimum Temp (F) 80.0
Maximum Temp (F) 85.0
Day Forecast A shower and t-storm; humid
----------------------------------------
Weather For 2023-07-25T07:00:00+05:30
Minimum Temp (F) 79.0
Maximum Temp (F) 86.0
Day Forecast A shower and t-storm; humid
----------------------------------------
Weather For 2023-07-26T07:00:00+05:30
Minimum Temp (F) 78.0
Maximum Temp (F) 84.0
Day Forecast A shower and t-storm; humid
----------------------------------------
agneyahuddar0311@Agneyas-MacBook-Pro python %
```