

WEATHER APP

OVERVIEW:

This weather app will provide the weather data including the temperature and type of weather, and the city name provided by the User. It includes weather data from all over the world.

It will show the temperature and type of weather, whether it is cloudy, rainy, heavy winds, etc.

QUESTION:

The user wants the temperature and weather type because he wants to travel. So how are we going to accomplish that?

A detailed explanation of the code and its logic is below.

CODE LOGIC AND DESIGN:

- Since we have to fetch the weather data from somewhere so we have to import requests and download the library and need an API key which is taken from the open weather Open Weather Map API.

```
1 # Name= Muhammad Fahad afroze, Email : fahadafroze99@gmail.com, Student ID: ECP-M-61637
2
3
4 """We are making weather app, so first of all we need the api key, which will be used to requests the weather data. """
5
6 import requests #First we need to fetch the API So i have to install the requets library to fetch the API by using pip3 in
7
8 api_key = '30d4741c779ba94c470ca1f63045390a' #This api key is taken from the openweathermap. to fetch the weather data.
9
```

- This Key will fetch us the data we need.
- After that, we will create a user input variable so we can take input from the user.
- Along with the URL which I have taken from Google. This URL will provide us the data we need and stored in the User input with the help of api key.

```
user_input = input("Enter city: ") #Now we have created the variable to take city name from the user.

#Now we will create a variable that will contain our requests meaning the data we will be fetching from the below URL.
weather_data = requests.get(
    f"https://api.openweathermap.org/data/2.5/weather?q={user_input}&units=imperial&appid={api_key}")# I have searched a li
```

- At this stage, I Googled it and I decided to fetch the data in JSON format.

- So I ran the code to check whether it was working or not. It worked but I was getting the data in an array and it contains a lot of data other than temperature and weather.

```
Enter city: karachi
{'coord': {'lon': 67.0822, 'lat': 24.9056}, 'weather': [{'id': 801, 'main': 'Clouds', 'description': 'few clouds', 'icon': '02d'}], 'base': 'stations', 'main': {'temp': 80.42, 'feels_like': 78.49, 'temp_min': 80.42, 'temp_max': 80.42, 'pressure': 1019, 'humidity': 12}, 'visibility': 7000, 'wind': {'speed': 11.5, 'deg': 90}, 'clouds': {'all': 19}, 'dt': 1707569864, 'sys': {'type': 1, 'id': 7576, 'country': 'PK', 'sunrise': 1707530994, 'sunset': 1707571319}, 'timezone': 18000, 'id': 1174872, 'name': 'Karachi', 'cod': 200}
PS C:\Users\92311\Desktop\Bano qabil course\Bano Qabil project number 2> █
```

- I only need two things one temperature and the second type of weather.
- So I created the weather and temperature variable and fetched the weather and temperature data.

```
weather = weather_data.json()['weather'][0]['main'] # Fetch weather data using index number from the weather data.
temp = round(weather_data.json()['main']['temp']) # Fetch temp data from json and used to round the number.

print(f"The weather in {user_input} is: {weather}")
print(f"The temperature in {user_input} is: {temp}°F")

# After running the code we are getting the temp and weather of the city from the user.
```

- In the end, the code ran perfectly and it worked.

```
PS C:\Users\92311\Desktop\Bano qabil course\Bano Qabil project number 2> & "C:/Program Files/Python310/python.exe" "c:/Users/92311/Desktop/Bano qabil course/Bano Qabil project number 2/Project number 2/Weather_app.py"
Enter city: Karachi
The weather in Karachi is: Clouds
The temperature in Karachi is: 80°F
PS C:\Users\92311\Desktop\Bano qabil course\Bano Qabil project number 2> █
```

Github repository link: