Weather App using Python and OpenWeatherMap API

Objective

To build a simple command-line-based weather application that fetches and displays real-time weather data of a city using an online weather API.

Technologies Used

Python, OpenWeatherMap API, Requests Library

Requirements

pip install requests

Components

Python script, OpenWeatherMap API Key, Internet connection

API Used

OpenWeatherMap API (https://openweathermap.org/api)

Working Principle

1. User inputs the city name.
2. The app sends a GET request to OpenWeatherMap API with the city name and API key.
3. The API returns weather data in JSON format.
4. The app parses this data and displays weather condition, temperature, humidity, and wind speed.

Python Code

```
import requests


def get_weather(city):
    api_key = "your_api_key_here"
    url = f"http://api.openweathermap.org/data/2.5/weather?q={city}&appid={api_key}&units=metric"

    response = requests.get(url)
    data = response.json()

    if data["cod"] != 200:
        print("City not found.")
        return
```

```
    print(f"\nWeather in {city.title()}:")
    print("Condition:", data["weather"][0]["description"].title())
    print("Temperature:", data["main"]["temp"], "°C")
    print("Humidity:", data["main"]["humidity"], "%")
    print("Wind Speed:", data["wind"]["speed"], "m/s")

# Example usage
city = input("Enter city name: ")
get_weather(city)
```

Output Example

Enter city name: Delhi

Weather in Delhi:

Condition: Clear Sky

Temperature: 32.5 °C

Humidity: 40 %

Wind Speed: 3.5 m/s

Applications

Daily weather updates, Educational projects, Travel tools, Can be extended to GUI or mobile app