

```

w=80
t=50
h=30
prediction=0.5*t**2-0.2*h+0.1*w-15
print(prediction)
if prediction>300:
    print("sunny")
elif 200<prediction<=300:
    print("cloudy")
elif 100<prediction<=200:
    print("rainy")
elif prediction<=100:
    print("stormy")

```

↗ 1237.0  
sunny

```

w=float(input("enter the value of w:"))
t=float(input("enter the value of t:"))
h=float(input("enter the value of h:"))
prediction=0.5*t**2-0.2*h+0.1*w-15
print(prediction)
if prediction>300:
    print("sunny")
elif 200<prediction<=300:
    print("cloudy")
elif 100<prediction<=200:
    print("rainy")
elif prediction<=100:
    print("stormy")

```

↗ enter the value of w:23.5  
enter the value of t:45.6  
enter the value of h:78.4  
1011.3499999999999  
sunny

```


# weather prediction program
def get_weather_data():
    location = input("Enter location (city, country): ")
    temperature = float(input("Temperature (°C): "))
    humidity = float(input("Humidity (%): "))
    wind_speed = float(input("Wind speed (km/h): "))
    return temperature, humidity, wind_speed
def predict_weather(temperature, humidity, wind_speed):
    if not (-30 <= temperature <= 50):
        raise ValueError("Temperature out of range (-30°C to 50°C).")
    if not (0 <= humidity <= 100):
        raise ValueError("Humidity out of range (0% to 100%).")
    if wind_speed < 0:
        raise ValueError("Wind speed cannot be negative.")
    W = 0.5 * temperature**2 - 0.2 * humidity + 0.1 * wind_speed - 15
    if W < 10:
        return "Sunny"
    elif W < 20:
        return "Cloudy"
    elif W < 30:
        return "Rainy"
    else:
        return "Stormy"
def main():
    try:
        temp, hum, wind = get_weather_data()
        prediction = predict_weather(temp, hum, wind)

```

```

        print(f"Predicted weather: {prediction}")
    except ValueError as e:
        print(f"Error: {e}")
if __name__ == "__main__":
    main()

```

 Enter location (city, country): india  
 Temperature (°C): 24  
 Humidity (%): 32  
 Wind speed (km/h): 5  
 Predicted weather: Stormy

```

# Multiple Inputs from File
def calculate_weather_index(t, h):
    return (0.5 * t**2 - 0.2 * h - 15) / 0.9
def multiple_inputs_file_solution(filename):
    try:
        with open(filename, 'r') as file:
            print("\nMultiple Inputs from File:")
            for i, line in enumerate(file, start=1):
                line = line.strip()
                if not line:
                    continue
                t, h = map(float, line.split())
                w = calculate_weather_index(t, h)
                print(f"Temperature: {t}, Humidity: {h}, Weather Index: {w:.2f}")
    except Exception as e:
        print(f"Error reading the file: {e}")
filename = 'multiple_inputs_weather.txt'
multiple_inputs_file_solution(filename)

```

 Error reading the file: [Errno 2] No such file or directory: 'multiple\_inputs\_weather.txt'