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# python3 -- Weather Application using API


# importing the libraries

from tkinter import *

import requests

import json

import datetime

from PIL import ImageTk, Image



# necessary details

root = Tk()

root.title("Weather App")

root.geometry("450x700")

root['background'] = "white"


# Image

new = ImageTk.PhotoImage(Image.open('logo.png'))

panel = Label(root, image=new)

panel.place(x=0, y=520)



# Dates

dt = datetime.datetime.now()

date = Label(root, text=dt.strftime('%A--'), bg='white', font=("bold", 15))
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date.place(x=5, y=130)

month = Label(root, text=dt.strftime('%m %B'), bg='white', font=("bold", 15))

month.place(x=100, y=130)


# Time

hour = Label(root, text=dt.strftime('%I : %M %p'),

                                bg='white', font=("bold", 15))

hour.place(x=10, y=160)


# Theme for the respective time the application is used

if int((dt.strftime('%I'))) >= 8 & int((dt.strftime('%I'))) <= 5:

        img = ImageTk.PhotoImage(Image.open('moon.png'))

        panel = Label(root, image=img)

        panel.place(x=210, y=200)

else:

        img = ImageTk.PhotoImage(Image.open('sun.png'))

        panel = Label(root, image=img)

        panel.place(x=210, y=200)



# City Search

city_name = StringVar()

city_entry = Entry(root, textvariable=city_name, width=45)

city_entry.grid(row=1, column=0, ipady=10, stick=W+E+N+S)
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def city_name():

        # API Call
        api_request = requests.get("https://api.openweathermap.org/data/2.5/weather?q="
                                                    + city_entry.get() +
"&units=metric&appid="+api_key)

        api = json.loads(api_request.content)

        # Temperatures
        y = api['main']
        current_temprature = y['temp']
        humidity = y['humidity']
        tempmin = y['temp_min']
        tempmax = y['temp_max']

        # Coordinates
        x = api['coord']
        longtitude = x['lon']
        latitude = x['lat']

        # Country
        z = api['sys']
        country = z['country']
        citi = api['name']
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        # Adding the received info into the screen
        lable_temp.configure(text=current_temprature)
        lable_humidity.configure(text=humidity)
        max_temp.configure(text=tempmax)
        min_temp.configure(text=tempmin)
        lable_lon.configure(text=longtitude)
        lable_lat.configure(text=latitude)
        lable_country.configure(text=country)
        lable_citi.configure(text=citi)


# Search Bar and Button
city_nameButton = Button(root, text="Search", command=city_name)
city_nameButton.grid(row=1, column=1, padx=5, stick=W+E+N+S)


# Country Names and Coordinates
lable_citi = Label(root, text="...", width=0,
                                    bg='white', font=("bold", 15))
lable_citi.place(x=10, y=63)

lable_country = Label(root, text="...", width=0,
                                        bg='white', font=("bold", 15))
lable_country.place(x=135, y=63)
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lable_lon = Label(root, text="...", width=0,
                                    bg='white', font=("Helvetica", 15))
lable_lon.place(x=25, y=95)
lable_lat = Label(root, text="...", width=0,
                                    bg='white', font=("Helvetica", 15))
lable_lat.place(x=95, y=95)

# Current Temperature

lable_temp = Label(root, text="...", width=0, bg='white',
                                    font=("Helvetica", 110), fg='black')
lable_temp.place(x=18, y=220)

# Other temperature details

humi = Label(root, text="Humidity: ", width=0,
                            bg='white', font=("bold", 15))
humi.place(x=3, y=400)

lable_humidity = Label(root, text="...", width=0,
                                        bg='white', font=("bold", 15))
lable_humidity.place(x=107, y=400)
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```
maxi = Label(root, text="Max. Temp.: ", width=0,
                                bg='white', font=("bold", 15))
maxi.place(x=3, y=430)

max_temp = Label(root, text="...", width=0,
                                        bg='white', font=("bold", 15))
max_temp.place(x=128, y=430)



mini = Label(root, text="Min. Temp.: ", width=0,
                                bg='white', font=("bold", 15))
mini.place(x=3, y=460)

min_temp = Label(root, text="...", width=0,
                                        bg='white', font=("bold", 15))
min_temp.place(x=128, y=460)



# Note
note = Label(root, text="All temperatures in degree celsius",
                                bg='white', font=("italic", 10))
note.place(x=95, y=495)



root.mainloop()
```