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from tkinter import *
import tkinter as tk
from geopy.geocoders import Nominatim
from timezonefinder import TimezoneFinder
from datetime import *
import requests
import pytz
from PIL import Image, ImageTk

# app window
root = Tk()
root.title("Weather Forecast App")
root.geometry("999x666+300+300")
root.configure(bg="#aee4f2")
root.resizable(False, False)

# getWeather()
def getWeather():
    city = textfield.get()
    geolocator = Nominatim(user_agent="geoapiExercises")
    location = geolocator.geocode(city)
    obj = TimezoneFinder()
    result = obj.timezone_at(lng=location.longitude, lat=location.latitude)
#stores latitude and longitude value

    timezone.config(text=result)
    long_lat.config(
        text=f"{round(location.latitude,4)}°N,{round(location.longitude,4)}°E")

    home = pytz.timezone(result)
    local_time = datetime.now(home)
    current_time = local_time.strftime("%I:%M %p") #current time at that place
    clock.config(text=current_time)

    # weather
    api =
"https://api.openweathermap.org/data/2.5/onecall?lat="+str(location.latitude)+"&
lon="+str(
location.longitude)+"&units=metric&exclude=hourly&appid=646824f2b7b86caffec1d0b1
6ea77f79" #request data from api
    json_data = requests.get(api).json() #gets data in json format from api

    # current
    temp = json_data['current']['temp']
    humidity = json_data['current']['humidity']
    pressure = json_data['current']['pressure']
    wind = json_data['current']['humidity']
    description = json_data['current']['weather'][0]['description']
    feels_like = json_data['current']['feels_like']
    visibility = json_data['current']['visibility']
    uvi = json_data['current']['uvi']
    clouds = json_data['current']['clouds']

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dew_point = json_data['current']['dew_point']

t.config(text=(temp, "°C"))
h.config(text=(humidity, "%"))
p.config(text=(pressure, "hPa"))
w.config(text=(wind, "m/s"))
d.config(text=(description))
f.config(text=(feels_like, "°C"))
v.config(text=(visibility, "m"))
u.config(text=(uvi))
c.config(text=(clouds, "%"))
d_point.config(text=(dew_point, "°"))

#####
# first day weather
firstdayimg = json_data['daily'][0]['weather'][0]['icon']
img = (Image.open(
    f"S:\Weather App Project\live img icon\{firstdayimg}@2x.png"))
resized_image = img.resize((180, 180))
photo1 = ImageTk.PhotoImage(resized_image)
firstimage.config(image=photo1)
firstimage.image = photo1

tempday1 = json_data['daily'][0]['temp']['day']
tempnight1 = json_data['daily'][0]['temp']['night']
day1temp.config(text=f"Day:{int(tempday1)}°C   Night:{int(tempnight1)}°C")

# second day
secondimg = json_data['daily'][1]['weather'][0]['icon']
photo2 = ImageTk.PhotoImage(
    file=f"S:\Weather App Project\live img icon\{secondimg}@2x.png")
secondimage.config(image=photo2)
secondimage.image = photo2

tempday2 = json_data['daily'][1]['temp']['day']
tempnight2 = json_data['daily'][1]['temp']['night']
day2temp.config(text=f"Day:{int(tempday2)}°C   Night:{int(tempnight2)}°C")

# third day weather
thirdimg = json_data['daily'][2]['weather'][0]['icon']
photo3 = ImageTk.PhotoImage(
    file=f"S:\Weather App Project\live img icon\{thirdimg}@2x.png")

thirdimage.config(image=photo3)
thirdimage.image = photo3

tempday3 = json_data['daily'][2]['temp']['day']
tempnight3 = json_data['daily'][2]['temp']['night']
day3temp.config(text=f"Day:{int(tempday3)}°C   Night:{int(tempnight3)}°C")

# fourth day weather
fourthimg = json_data['daily'][3]['weather'][0]['icon']
photo4 = ImageTk.PhotoImage(
    file=f"S:\Weather App Project\live img icon\{fourthimg}@2x.png")

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fourthimage.config(image=photo4)
fourthimage.image = photo4

tempday4 = json_data['daily'][3]['temp']['day']
tempnight4 = json_data['daily'][3]['temp']['night']
day4temp.config(text=f"Day:{int(tempday4)}°C  Night:{int(tempnight4)}°C")

# fifth day weather
fifthimg = json_data['daily'][4]['weather'][0]['icon']
photo5 = ImageTk.PhotoImage(
    file=f"S:\Weather App Project\live img icon\{fifthimg}@2x.png")
fifthimage.config(image=photo5)
fifthimage.image = photo5

tempday5 = json_data['daily'][4]['temp']['day']
tempnight5 = json_data['daily'][4]['temp']['night']
day5temp.config(text=f"Day:{int(tempday5)}°C  Night:{int(tempnight5)}°C")

# sixth day weather
sixthimg = json_data['daily'][5]['weather'][0]['icon']
photo6 = ImageTk.PhotoImage(
    file=f"S:\Weather App Project\live img icon\{sixthimg}@2x.png")
sixthimage.config(image=photo6)
sixthimage.image = photo6

tempday6 = json_data['daily'][5]['temp']['day']
tempnight6 = json_data['daily'][5]['temp']['night']
day6temp.config(text=f"Day:{int(tempday6)}°C  Night:{int(tempnight6)}°C")

# seventh day weather
seventhimg = json_data['daily'][6]['weather'][0]['icon']
photo7 = ImageTk.PhotoImage(
    file=f"S:\Weather App Project\live img icon\{seventhimg}@2x.png")
seventhimage.config(image=photo7)
seventhimage.image = photo7

tempday7 = json_data['daily'][6]['temp']['day']
tempnight7 = json_data['daily'][6]['temp']['night']
day7temp.config(text=f"Day:{int(tempday7)}°C  Night:{int(tempnight7)}°C")

# display all days
first = datetime.now(pytz.timezone(result))
cell1.config(text=first.strftime("%A"))

second = first+timedelta(days=1)
cell2.config(text=second.strftime("%A"))

third = first+timedelta(days=2)
cell3.config(text=third.strftime("%A"))

fourth = first+timedelta(days=3)
cell4.config(text=fourth.strftime("%A"))

fifth = first+timedelta(days=4)

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cell5.config(text=fifth.strftime("%A"))

sixth = first+timedelta(days=5)
cell6.config(text=sixth.strftime("%A"))

seventh = first+timedelta(days=6)
cell7.config(text=seventh.strftime("%A"))

#Popup function to view developer details
def open_popup():
    top = Toplevel(root)
    top.geometry("600x450")
    top.title("Developer Details")
    top.resizable(False, False)

    popup_img = PhotoImage(file="S:\Weather App Project\dev.png")
    popup_image = Label(top, image=popup_img)
    popup_image.place(x=0, y=0)
    top.mainloop()

#####
# icon
img_icon = PhotoImage(file="S:\Weather App Project\icon.png")
root.iconphoto(False, img_icon)

# rainbow boxes
rainbow_box = PhotoImage(file="S:\Weather App Project\weather details2.png")
Label(root, image=rainbow_box, bg="#aee4f2").place(x=10, y=95)

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# label
label1 = Label(root, text="Visibility", font=(
    'Comic Sans MS', 11), fg="black", bg="#8cff8c")
label1.place(x=50, y=281)

label2 = Label(root, text="Humidity", font=(
    'Comic Sans MS', 11), fg="black", bg="#ff925e")
label2.place(x=50, y=165)

label3 = Label(root, text="Pressure", font=(
    'Comic Sans MS', 11), fg="black", bg="#ffff2f")
label3.place(x=50, y=223)

label4 = Label(root, text="Wind Speed", font=(
    'Comic Sans MS', 11), fg="black", bg="#ff7171")
label4.place(x=38, y=109)

label5 = Label(root, text="UV Index", font=(
    'Comic Sans MS', 11), fg="black", bg="#80ffff")
label5.place(x=50, y=339)

label6 = Label(root, text="Clouds", font=(
    'Comic Sans MS', 11), fg="black", bg="#4651ce")

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label6.place(x=50, y=397)

label7 = Label(root, text="Dew Point", font=(
    'Comic Sans MS', 11), fg="black", bg="#f900f9")
label7.place(x=50, y=455)

#####
# Weather Forecast text
wf_text = PhotoImage(file="S:\Weather App Project\weatext.png")
weaimage = Label(image=wf_text, bg="#aee4f2")
weaimage.place(x=333, y=10)

# search box
search_box = PhotoImage(file="S:\Weather App Project\search box.png")
myimage = Label(image=search_box, bg="#aee4f2")
myimage.place(x=277, y=120)

# search box cloud image
weat_image = PhotoImage(file="S:\Weather App Project\Layer 7.png")
weatherimg = Label(root, image=weat_image, bg='#203243')
weatherimg.place(x=290, y=128)

# Entry Text Field
textfield = tk.Entry(root, justify='center', width=20, font=(
    'poppins', 20, 'bold'), bg="#203243", border=0, fg="white")
textfield.place(x=360, y=135)
textfield.focus()

# search icon
search_icon = PhotoImage(file="S:\Weather App Project\Layer 6.png")
myimage_icon = Button(image=search_icon, borderwidth=0, cursor="hand2",
    bg="#203243", command=getWeather)
myimage_icon.place(x=655, y=125)
root.bind('<Return>', lambda event: getWeather()) #Enter key to search

# thinking man
man = PhotoImage(file="S:\Weather App Project\man-t32.png")
Label_man = Label(root, image=man, bg="#aee4f2")
Label_man.place(x=720, y=210)

label_tm = Label(root, text="Feels Like...", font=(
    'Comic Sans MS', 16), fg="black", bg="ffffff")
label_tm.place(x=825, y=240)

# Bottom Box
firstbox = PhotoImage(file="S:\Weather App Project\dbottom gbox.png")
Label11 = Label(root, image=firstbox, bg="#aee4f2")
Label11.place(x=15, y=500)

Label12 = Label(root, image=firstbox, bg="#aee4f2")
Label12.place(x=179, y=500)

Label13 = Label(root, image=firstbox, bg="#aee4f2")
Label13.place(x=343, y=500)

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Label14 = Label(root, image=firstbox, bg="#aee4f2")
Label14.place(x=507, y=500)

Label15 = Label(root, image=firstbox, bg="#aee4f2")
Label15.place(x=671, y=500)

Label16 = Label(root, image=firstbox, bg="#aee4f2")
Label16.place(x=835, y=500)

# clock
clock = Label(root, font=("Comic Sans MS", 25, 'bold'),
               fg="black", bg="#aee4f2")
clock.place(x=20, y=0)

# timezone
timezone = Label(root, font=("Comic Sans MS", 13),
                 fg="black", bg="#aee4f2")
timezone.place(x=815, y=50)

long_lat = Label(root, font=("Comic Sans MS", 12),
                 fg="black", bg="#aee4f2")
long_lat.place(x=810, y=80)

# printing live details
t = Label(root, font=("Comic Sans MS", 40), fg="black",
          bg="#aee4f2") # prints temperature
t.place(x=400, y=195)

f = Label(root, font=("Comic Sans MS", 15), fg="black", bg="ffffff")
f.place(x=835, y=270)

h = Label(root, font=("Comic Sans MS", 11), fg="black", bg="ff925e")
h.place(x=125, y=165)

p = Label(root, font=("Comic Sans MS", 11), fg="black", bg="ffff2f")
p.place(x=120, y=223)

w = Label(root, font=("Comic Sans MS", 11), fg="black", bg="ff7171")
w.place(x=127, y=109)

u = Label(root, font=("Comic Sans MS", 11), fg="black", bg="80ffff")
u.place(x=127, y=339)

d = Label(root, font=("Comic Sans MS", 20), fg="black", bg="#aee4f2")
d.place(x=425, y=275)

v = Label(root, font=("Comic Sans MS", 11), fg="black", bg="8cff8c")
v.place(x=120, y=280)

c = Label(root, font=("Comic Sans MS", 11), fg="black", bg="4651ce")
c.place(x=127, y=397)

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d_point = Label(root, font=("Comic Sans MS", 11), fg="black", bg="#f900f9")
d_point.place(x=128, y=455)
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# first cell
cell1 = Label(root, font=("Comic Sans MS", 25, 'bold'),
               bg="#aee4f2", fg="black")
cell1.place(x=30, y=40)
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firstimage = Label(root, bg="#aee4f2")
firstimage.place(x=410, y=315)
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day1temp = Label(root, font=("Comic Sans MS", 13),
                  bg="#aee4f2", fg="black")
day1temp.place(x=410, y=465)
```

```
# second cell
cell2 = Label(root, font=("Comic Sans MS", 11, 'bold'),
               bg="#ded5c1", fg="black")
cell2.place(x=55, y=505)
```

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secondimage = Label(root, bg="#ded5c1")
secondimage.place(x=40, y=530)
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day2temp = Label(root, bg="#ded5c1", fg="black")
day2temp.place(x=28, y=620)
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```
# third cell
cell3 = Label(root, font=("Comic Sans MS", 11, 'bold'),
               bg="#ded5c1", fg="black")
cell3.place(x=219, y=505)
```

```
thirdimage = Label(root, bg="#ded5c1")
thirdimage.place(x=204, y=530)
```

```
day3temp = Label(root, bg="#ded5c1", fg="black")
day3temp.place(x=192, y=620)
```

```
# fourth cell
cell4 = Label(root, font=("Comic Sans MS", 11, 'bold'),
               bg="#ded5c1", fg="black")
cell4.place(x=383, y=505)
fourthimage = Label(root, bg="#ded5c1")
fourthimage.place(x=368, y=530)
day4temp = Label(root, bg="#ded5c1", fg="black")
day4temp.place(x=356, y=620)
```

```
# fifth cell
cell5 = Label(root, font=("Comic Sans MS", 11, 'bold'),
               bg="#ded5c1", fg="black")
cell5.place(x=547, y=505)
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fifthimage = Label(root, bg="#ded5c1")
fifthimage.place(x=532, y=530)
day5temp = Label(root, bg="#ded5c1", fg="black")
day5temp.place(x=520, y=620)

# sixth cell
cell6 = Label(root, font=("Comic Sans MS", 11, 'bold'),
               bg="#ded5c1", fg="black")
cell6.place(x=711, y=505)
sixthimage = Label(root, bg="#ded5c1")
sixthimage.place(x=696, y=530)
day6temp = Label(root, bg="#ded5c1", fg="black")
day6temp.place(x=684, y=620)

# seventh cell
cell7 = Label(root, font=("Comic Sans MS", 11, 'bold'),
               bg="#ded5c1", fg="black")
cell7.place(x=875, y=505)
seventhimage = Label(root, bg="#ded5c1")
seventhimage.place(x=860, y=530)
day7temp = Label(root, bg="#ded5c1", fg="black")
day7temp.place(x=848, y=620)

#####
i_button = PhotoImage(file="S:\Weather App Project\info button.png")
ibutton_icon = Button(image=i_button, borderwidth=0, cursor="hand2",
                      bg="#aee4f2", command=open_popup)
ibutton_icon.place(x=950, y=5)

root.mainloop()

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