```
"""
Check the Weather
"""

import requests


def zip_code_function():
    # request location with zip code
    zip_code = input('What is your zip code: ')
    # look up city information with zip code
    zip_url = f'http://api.openweathermap.org/geo/1.0/zip?zip={zip_code},US&appid=340bda0c87bc556c2ccd107f1ab40b7a'
    # get city information from openweather
    zip_url = requests.request('GET', zip_url)
    # put information in json format
    data = zip_url.json()
    # get latitude and longitude from city information
    latitude = data['lat']
    longitude = data['lon']
    # get weather from latitude and longitude
    weather(latitude, longitude)


def city_function():
    # request location with city and state
    city_name = input('What city would you like to look up?: ')
    state = input('What state is the city located in? ')
    city_url = f'http://api.openweathermap.org/geo/1.0/direct?q={city_name},{state},US&appid=340bda0c87bc556c2ccd107f1ab40b7a'
    # get city information from openweather
    city_url = requests.request('GET', city_url)
    # load information into a json format
    data = city_url.json()
    # get latitude and longitude from nested dic to get city information
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34      latitude = set(city.get('lat') for city in data
    ).pop()
35      longitude = set(city.get('lon') for city in
    data).pop()
36      # get weather from latitude and longitude
37      weather(latitude, longitude)
38
39
40  def weather(latitude, longitude):
41      # pull the temp units into the function
42      units = temp_units()
43      url = f'https://api.openweathermap.org/data/2.5
    /weather?lat={latitude}&lon={longitude}&appid=
    340bda0c87bc556c2ccd107f1ab40b7a&units={units}'
44      # get weather
45      lat_lon_url = requests.request('GET', url)
46      # load information into a json format
47      lat_lon_data = lat_lon_url.json()
48      # print format
49      pretty_print(lat_lon_data, units)
50
51
52  def temp_units():
53      while True:
54          # Ask user what unit of measure they would
    like to receive the temp weather
55          units = input('What unit of measurement
    would you like to view the temperature?\n "F" for
    Fahrenheit or "C" for Celsius\n Preferred Temp: ').
    upper()
56          try:
57              if units == "F":
58                  return 'imperial'
59              elif units == "C":
60                  return 'metric'
61              else:
62                  print('\nPlease enter "F" or "C"\n'
    )
63          except KeyboardInterrupt:
64              print('\n The program has been stopped
    . Thank you for your for using OpenWeather.')
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```
65          except Exception as e:
66              # print reason for error
67              print('Error:', e)
68
69
70  def pretty_print(lat_lon_data, units):
71      # put unit measurement letter after temp
    weather
72      if units == 'imperial':
73          f_c_unit = 'F'
74      else:
75          f_c_unit = 'C'
76      # put degree symbol after temp weather
77      degree = u'\xb0'
78      try:
79          # print the weather, round the result and
    format second column
80          print('---------------------------------')
81          print(f"\tWeather for {lat_lon_data['name'
    ]}")
82          print(f"{'Description:':25s}{lat_lon_data[
    'weather'][0]['description']}")
83          print(f"{'Temperature:':25s}{round(
    lat_lon_data['main']['temp'])}{degree}{f_c_unit}")
84          print(f"{'Feels like:':25s}{round(
    lat_lon_data['main']['feels_like'])}{degree}{
    f_c_unit}")
85          print(f"{'High:':25s}{round(lat_lon_data['
    main']['temp_max'])}{degree}{f_c_unit}")
86          print(f"{'Low:':25s}{round(lat_lon_data['
    main']['temp_min'])}{degree}{f_c_unit}")
87          print(f"{'Pressure:':25s}{round(
    lat_lon_data['main']['pressure'])}")
88          print(f"{'Humidity:':25s}{round(
    lat_lon_data['main']['humidity'])}%")
89          print('---------------------------------')
90      except KeyboardInterrupt:
91          print('\n The program has been stopped.
    Thank you for your for using OpenWeather.')
92      except Exception as e:
93          # print reason for error
```

```
 94         print('Error:', e)
 95     if_more_weather()
 96 
 97 
 98 def if_more_weather():
 99     while True:
100         another_location = input('Would you like
    to look up weather for another city? Enter "yes"
    or "no"\n Answer: ').lower()
101         try:
102             # find location from user input answer
     in lower case, if answer does not meet
    requirement loop back around
103             if another_location == 'yes'.lower():
104                 more_weather()
105             elif another_location == 'no'.lower():
106                 print('Thank you for using
    OpenWeather, Goodbye.')
107                 exit()
108             else:
109                 print('\nPlease ONLY enter "yes"
    or "no" \n')
110         except KeyboardInterrupt:
111             print('\n The program has been stopped
    . Thank you for your for using OpenWeather.')
112         except Exception as e:
113             # Any other error
114             print('Error:', e)
115 
116 
117 def more_weather():
118     while True:
119         zip_city = input('Would you like to enter
    your "zip", "city" or "no" to end the program?').
    lower()
120         try:
121             # find location from user input answer
     in lower case, if answer does not meet
    requirement loop back around
122             if zip_city == 'zip'.lower():
123                 zip_code_function()
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124             elif zip_city == 'city'.lower():
125                 city_function()
126             elif zip_city == 'no'.lower():
127                 print('Thank you for your time.')
128                 break
129             else:
130                 print('\nPlease enter "city", "zip
    " or "no".\n')
131         except KeyError:
132             # print reason for error
133             print('\nEither the zip, city or state
     is incorrect. Please enter accurate information.\
    n')
134         except KeyboardInterrupt:
135             print('\n The program has been stopped
    . Thank you for your for using OpenWeather.')
136         except Exception as e:
137             # Any other error
138             print('Error:', e)
139
140
141 def main():
142     # Ask how they want to look up the location
143     print('Welcome to OpenWeather: ')
144
145     while True:
146         # ask for user input
147         zip_city = input('Would you like to enter
    your "zip", "city" or "no" to end the program?').
    lower()
148         try:
149             # find location from user input answer
     in lower case, if answer does not meet
    requirement loop back around
150             if zip_city == 'zip'.lower():
151                 zip_code_function()
152             elif zip_city == 'city'.lower():
153                 city_function()
154             elif zip_city == 'no'.lower():
155                 print('Thank you for your time.')
156                 break
```

```
157             else:
158                 print('\nPlease enter "city", "zip
    " or "no".\n')
159         except KeyError:
160             # print reason for error
161             print('\nEither the zip, city or state
     is incorrect. Please enter accurate information.\
    n')
162         except KeyboardInterrupt:
163             print('\n The program has been stopped
    . Thank you for your for using OpenWeather.')
164         except Exception as e:
165             # Any other error
166             print('Error:', e)
167 
168 
169 if __name__ == '__main__':
170     main()
171 
```