Industrial Programming

Project: Research on Python Libraries

Requirements

Part 1

You will need to write python codes that reads an IATA airport code from the user, e.g "YYX" for Toronto Pearson International Airport, and retrieve the information about that airport from airport-info API endpoint of rapidapi.com, stores the airport info in an Airport object (after parsing the JSON response), then appends the Airport object to a text file called "airports.txt" and prints it out to the user in proper way.

You may follow the following steps to achieve the task:

1. Read the resources below in order to have an idea about the libraries to use in such a project
2. Read an airport IATA code from the user (e.g YYZ, YOW or YVR)
3. Register in RapidAPI, get your API key, and use your key in following RapidAPI tutorial (link in resources) about using Airport Info API with Python
4. Create an Airport class that contains the same fields of airport info response
5. Make an API request to fetch one airport info
6. Parse the JSON response (airport info) and store the values in an Airport object
7. Append the airport info to the file airports.txt
8. Run the code, test it for each of the following airport IATA codes: YYZ, YOW and YVR, taking a screenshot of each run
9. Follow the submission instructions

Source Code:

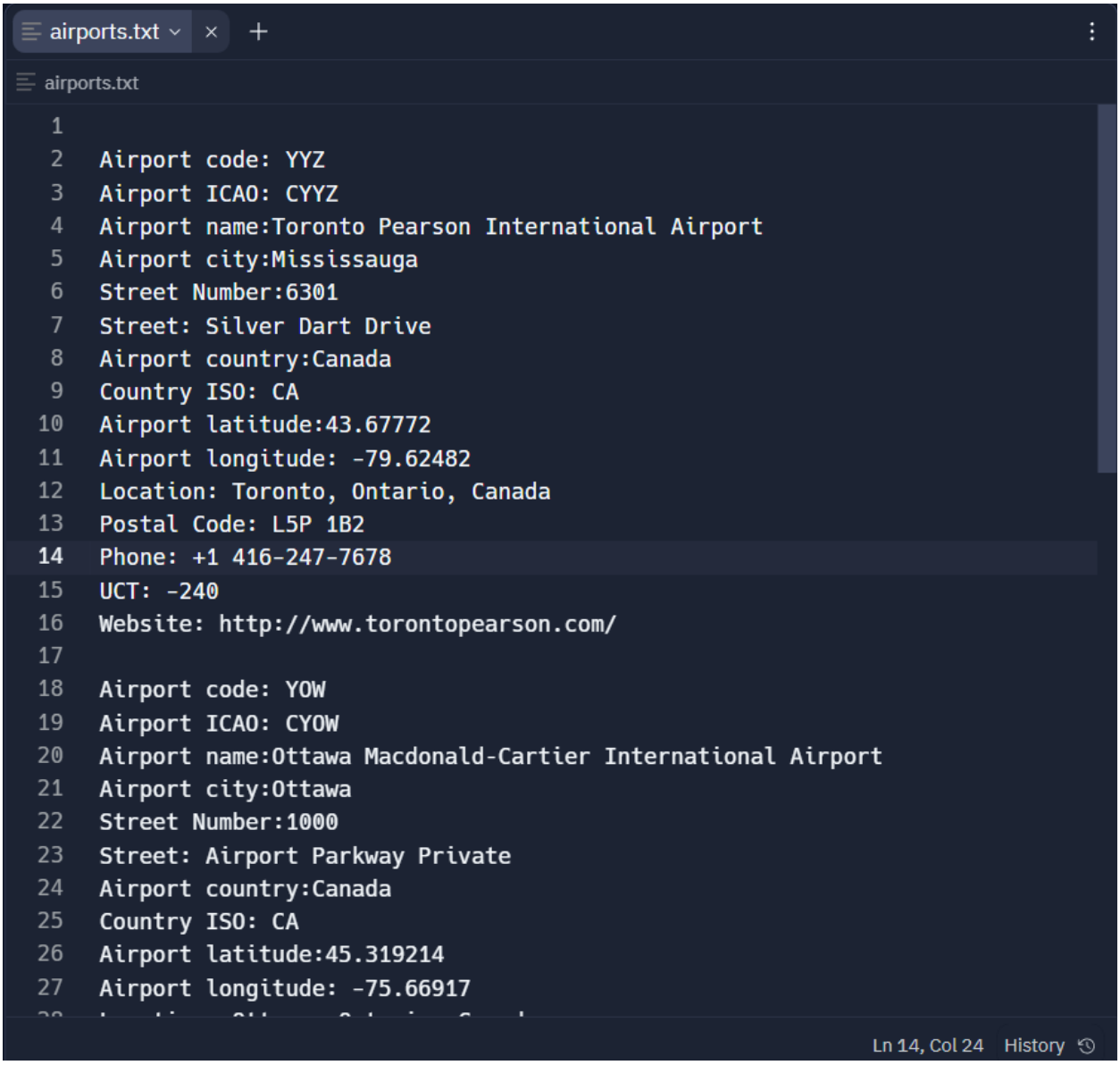
```
#Industrial Programming Project

#Importing the given libraries to access data from the url and
provide information

import requests

import json


# Defining the URL for the airport-info API

url = "https://airport-info.p.rapidapi.com/airport"


# Defining the headers for the API request

headers = {

    "X-RapidAPI-Key":
"73641f74c7msh9c35014aab6326ep1ceb3fjsn19e2c64fe871", #Unique
API-Key
```

```
    "X-RapidAPI-Host": "airport-info.p.rapidapi.com",
}


print("\n----------------------------------------\n")


# Asks the user for an IATA airport code
iata_code = input("Please enter an IATA airport code (e.g. YYZ):
")


# Defining the parameters for the API request
querystring = {"iata": iata_code}


# Send the API request and store the response
response = requests.request("GET", url, headers=headers,
params=querystring)


# Parse the response into JSON format
airport_info = json.loads(response.text)


# Define a class for the Airport object
class Airport:
    def __init__(self, code, icao, name,
city,street_number,street, country, country_iso, latitude,
longitude, location, postal_code, phone, uct, website):
      self.code = code
      self.icao = icao
      self.name = name
      self.city = city
      self.street_number =street_number
      self.street = street
      self.country = country
```

```
        self.country_iso = country_iso
        self.latitude = latitude
        self.longitude = longitude
        self.location = location
        self.postal_code = postal_code
        self.phone = phone
        self.uct = uct
        self.website = website



# Create an instance of the Airport object using the parsed JSON
data
airport = Airport(
    airport_info["iata"],
    airport_info["icao"],
    airport_info["name"],
    airport_info["city"],
    airport_info["street_number"],
    airport_info["street"],
    airport_info["country"],
    airport_info["country_iso"],
    airport_info["latitude"],
    airport_info["longitude"],
    airport_info["location"],
    airport_info["postal_code"],
    airport_info["phone"],
    airport_info["uct"],
    airport_info["website"],
)
```

```
# Append the Airport object to the "airports.txt" file
with open("airports.txt", "a") as f:
    f.write(f"\nAirport code: {airport.code} \nAirport ICAO: 
{airport.icao}  \nAirport name:{airport.name} \nAirport 
city:{airport.city} \nStreet Number:{airport.street_number} 
\nStreet: {airport.street} \nAirport country:{airport.country} 
\nCountry ISO: {airport.country_iso} \nAirport 
latitude:{airport.latitude} \nAirport longitude: 
{airport.longitude} \nLocation: {airport.location} \nPostal 
Code: {airport.postal_code} \nPhone: {airport.phone} \nUCT: 
{airport.uct} \nWebsite: {airport.website}\n")



# Print out the Airport object to the user
print("\n--------------Airport Details--------------")
print(f"IATA Code: {airport.code}")
print(f"ICAO COde: {airport.icao}")
print(f"Airport Name: {airport.name}")
print(f"City: {airport.city}")
print(f"Street Number: {airport.street_number}")
print(f"Street: {airport.street}")
print(f"Country: {airport.country}")
print(f"Country ISO: {airport.country_iso}")
print(f"Latitude: {airport.latitude}")
print(f"Longitude: {airport.longitude}")
print(f"Location: {airport.location}")
print(f"Postal Code: {airport.postal_code}")
print(f"Phone: {airport.phone}")
print(f"UCT: {airport.uct}")
print(f"Website: {airport.website}")
```

Airport details appended in text file.



```
Airport longitude: -75.66917
Location: Ottawa, Ontario, Canada
Postal Code: K1V 9B4
Phone: +1 613-248-2125
UCT: -240
Website: http://www.yow.ca/

Airport code: YVR
Airport ICAO: CYVR
Airport name:Vancouver International Airport
Airport city:Richmond
Street Number:3211
Street: Grant McConachie Way
Airport country:Canada
Country ISO: CA
Airport latitude:49.19669
Airport longitude: -123.18151
Location: Vancouver, British Columbia, Canada
Postal Code: V7B 0A4
Phone: +1 604-207-7077
UCT: -420
Website: http://www.yvr.ca/

```

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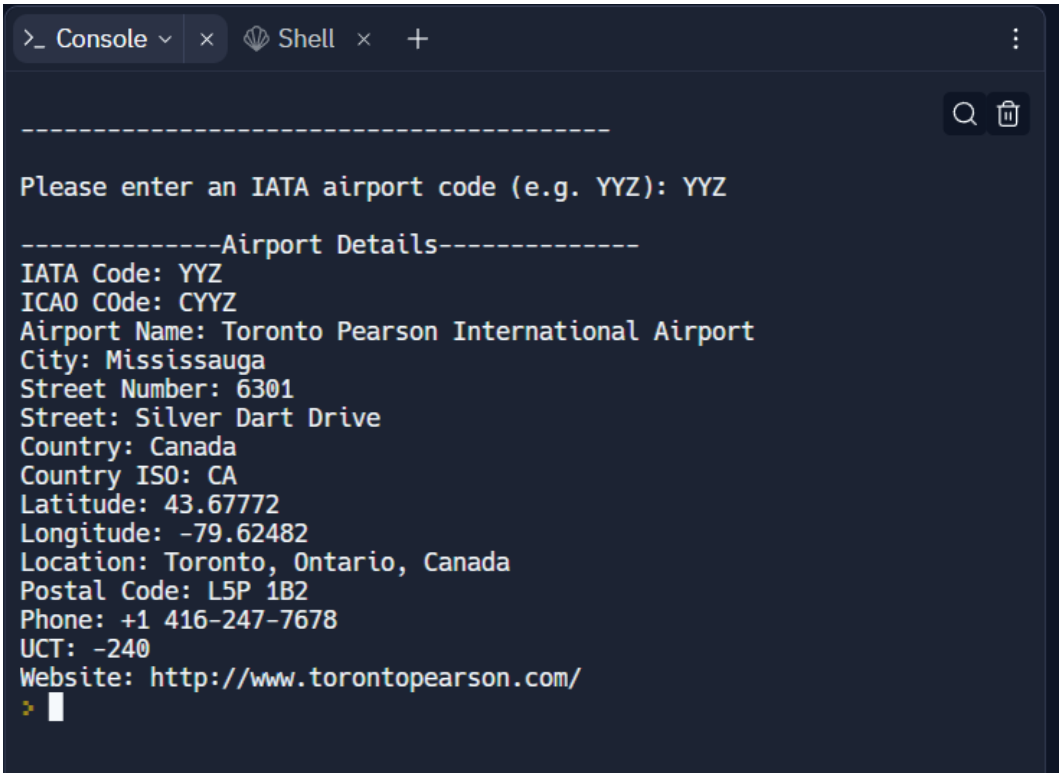
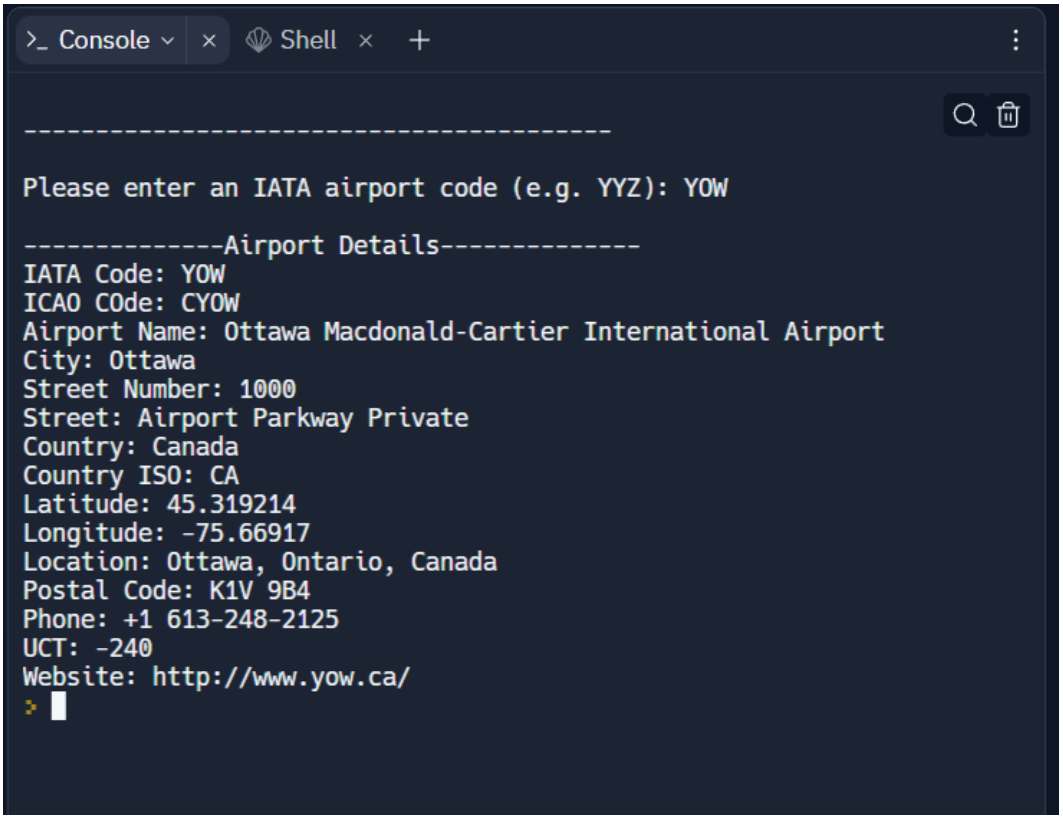
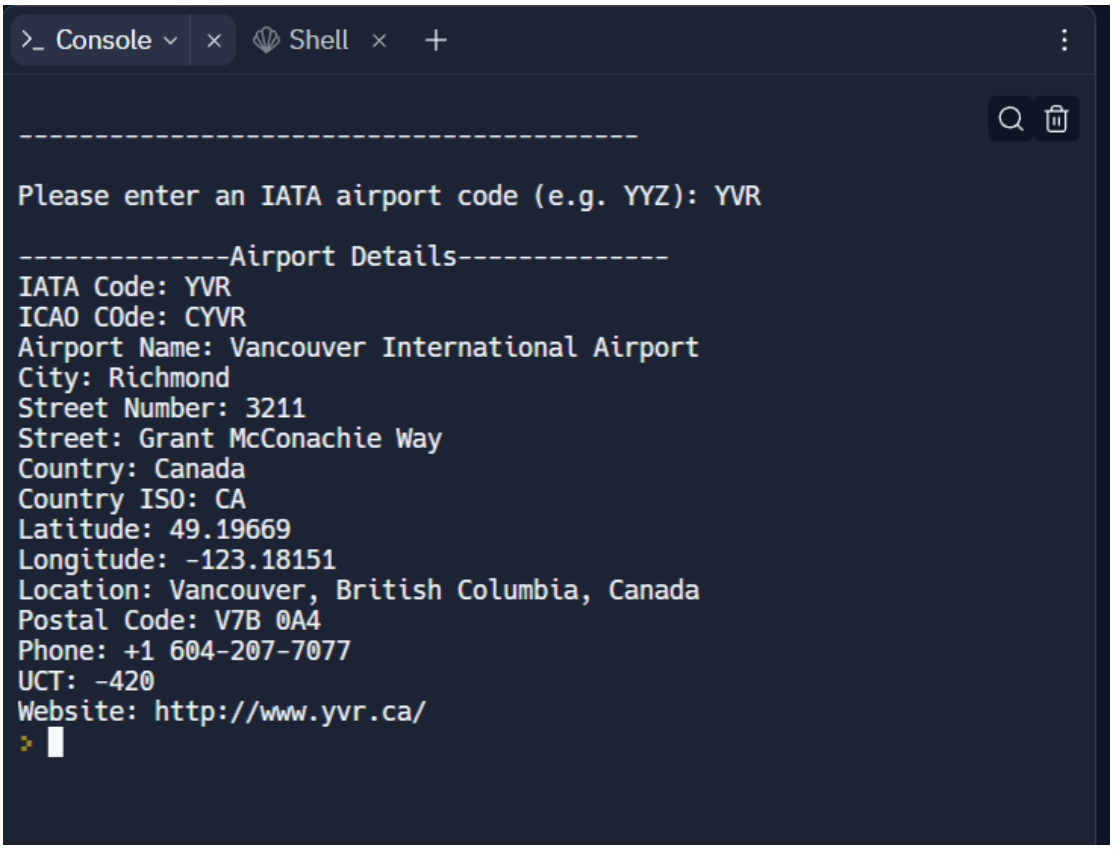
Output:


Console
Shell

Please enter an IATA airport code (e.g. YYZ): YYZ
--------------Airport Details--------------
IATA Code: YYZ
ICAO COde: CYYZ
Airport Name: Toronto Pearson International Airport
City: Mississauga
Street Number: 6301
Street: Silver Dart Drive
Country: Canada
Country ISO: CA
Latitude: 43.67772
Longitude: -79.62482
Location: Toronto, Ontario, Canada
Postal Code: L5P 1B2
Phone: +1 416-247-7678
UCT: -240
Website: http://www.torontopearson.com/


Console
Shell

Please enter an IATA airport code (e.g. YYZ): YOW
--------------Airport Details--------------
IATA Code: YOW
ICAO COde: CYOW
Airport Name: Ottawa Macdonald-Cartier International Airport
City: Ottawa
Street Number: 1000
Street: Airport Parkway Private
Country: Canada
Country ISO: CA
Latitude: 45.319214
Longitude: -75.66917
Location: Ottawa, Ontario, Canada
Postal Code: K1V 9B4
Phone: +1 613-248-2125
UCT: -240
Website: http://www.yow.ca/



Link: https://replit.com/@NehalRahman/NehalUrRahmanProject#main.py