

CIS 612 Big Data and Parallel Processing

LAB-3:

REVIEW EXTRACTION FROM YELP RESTAURANTS

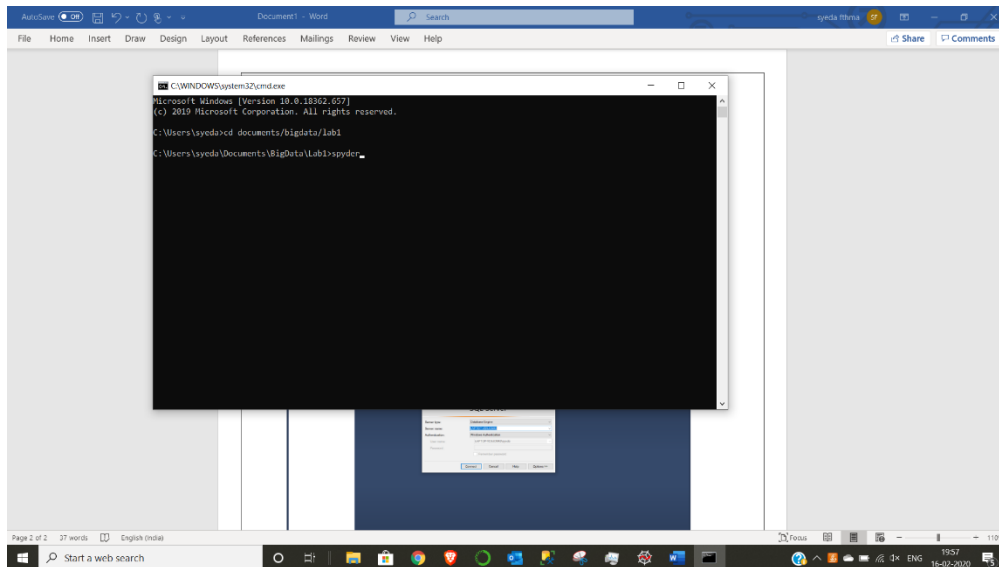
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Platform Setup:

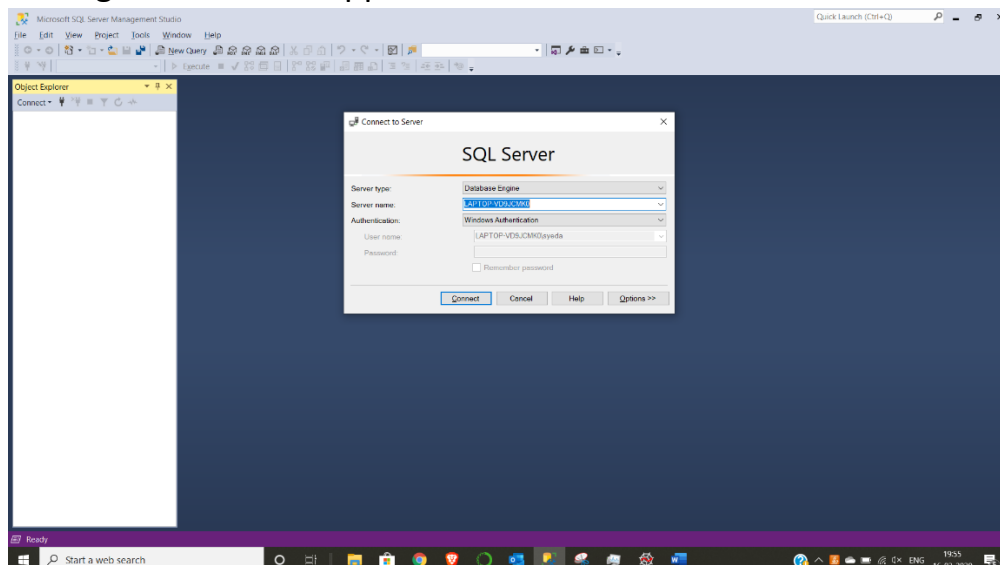
This lab was done using Microsoft SQL Server Management Studio and Python.

- 1) Spyder IDE was used to write the python code. In order to open Spyder you go to the command prompt and go to the directory you wish to save your source code in and then type Spyder to launch the Spyder IDE.



Once Spyder opens, you start typing your python source code.

- 2) The server can be started by opening the Microsoft SQL Server Management Studio application.



Once it opens you may make note of your server's name i.e. "HASNAIN2020 " (which will be used in the code)and press connect to connect to it.

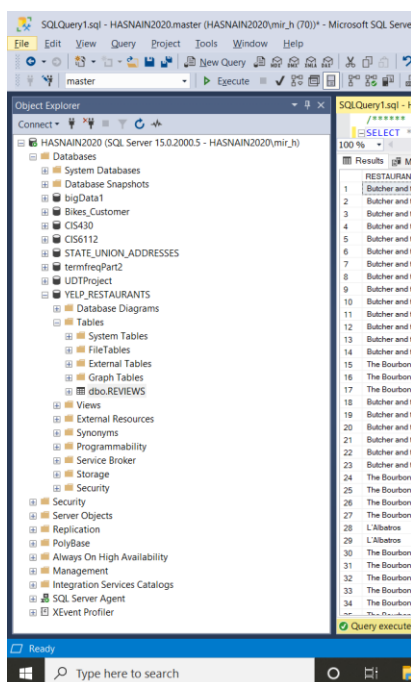
Program Outline:

The program makes use of python's lxml, pyodbc, urllib.parse, os libraries.

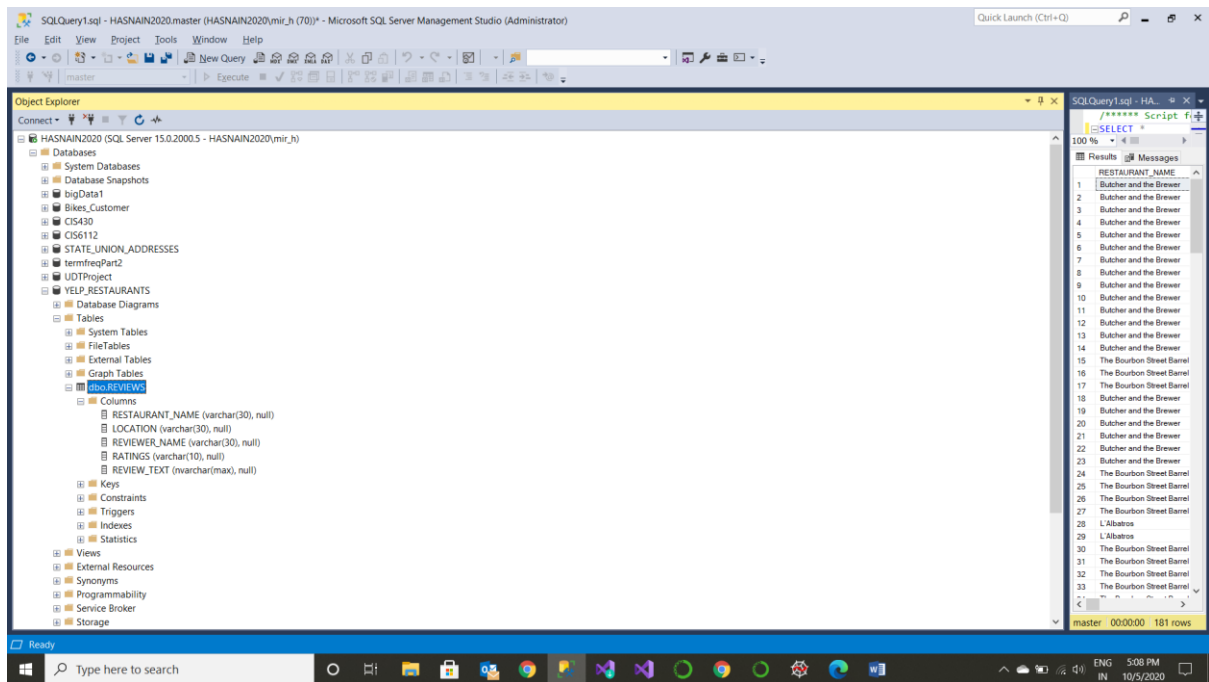
The program consists of five functions: main, connecttoserver(), insert_into_rows(), extract_info(link), write_to_file(resname,file_name,text), makeDirectory(resName).

We first make sure that the SQL server is still connected and running when we had connected to it in the setup part. Then we comeback to Spyder and run the python program.

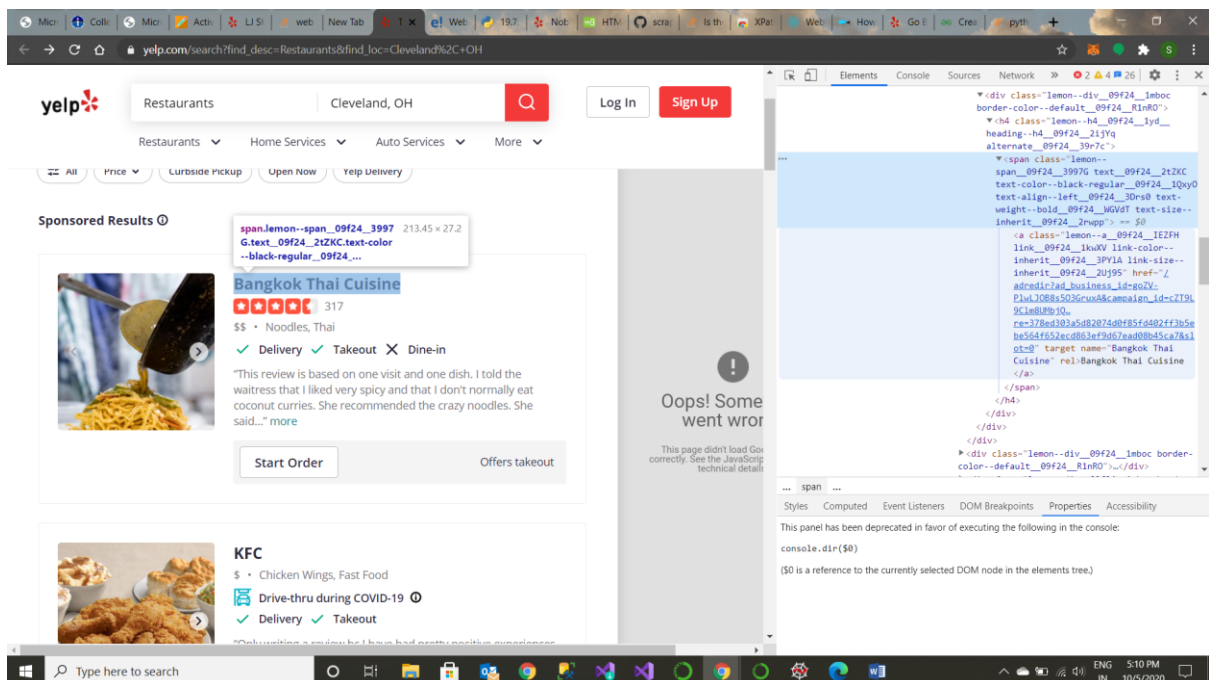
A new database called YELP RESTAURANTS with a table called dbo.REVIEWS in it.

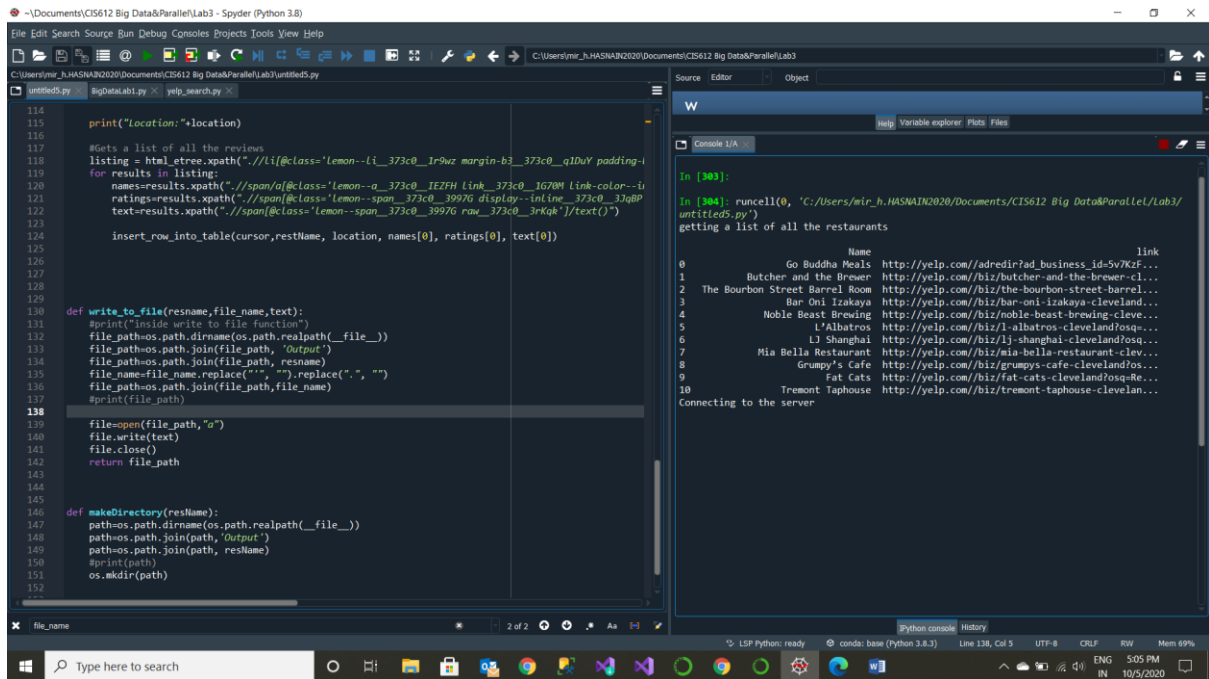


The table has columns- restaurant Name, location, Reviewer names, ratings, text

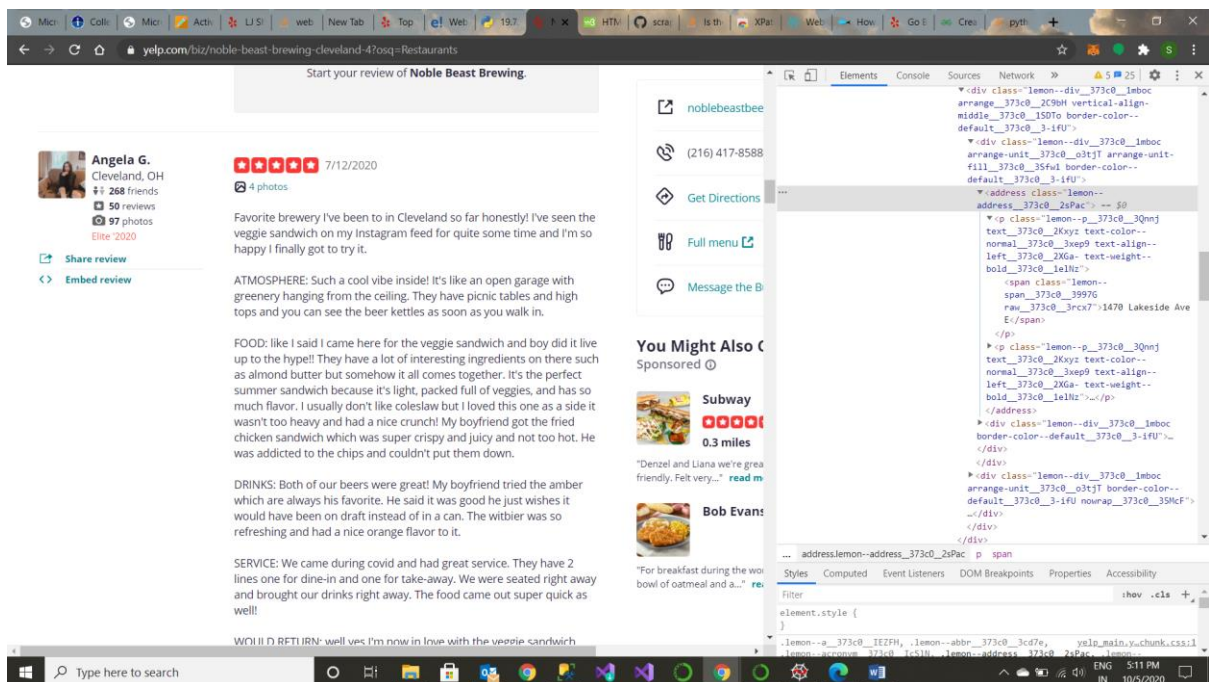


Then we fetch the links and names of top 10 restaurants in Cleveland from the Yelp site . We get the Xpath for each element by inspecting in chrome's Dev section.





After getting the links of all restaurants we go to the each restaurants page and extract the reviews , location and rating .



```
114 print("Location:"+location)
115
116 #Gets a list of all the reviews
117 listing = html_etree.xpath("//li[@class='Lemon--li_373c0_1r9wz margin-b3_373c0_q1DuV padding-1"]
118 for results in listing:
119     names=results.xpath("//span[@class='Lemon--a_373c0_1E2FH link_373c0_1G70M link-color--u
120     ratings=results.xpath("//span[@class='Lemon--span_373c0_3997G display--inline_373c0_37qBP
121     text=results.xpath("//span[@class='Lemon--span_373c0_3997G row_373c0_3rKqk']/text()")
122
123     insert_row_into_table(cursor,restName, location, names[0], ratings[0], text[0])
124
125
126
127
128
129
130
131 def write_to_file(resname, file_name, text):
132     #print("inside write to file function")
133     file_path=os.path.dirname(os.path.realpath(__file__))
134     file_path=os.path.join(file_path, "Output")
135     file_path=os.path.join(file_path, resname)
136     file_name=file_name.replace("'", "").replace(".", "")
137     file_path=os.path.join(file_path, file_name)
138     #print(file_path)
139     file=open(file_path, "a")
140     file.write(text)
141     file.close()
142     return file_path
143
144
145
146 def makeDirectory(resName):
147     path=os.path.dirname(os.path.realpath(__file__))
148     pathos.path.join(path, "Output")
149     pathos.path.join(path, resName)
150     #print(path)
151     os.mkdir(path)
152
```

Extracting Reviews for :Butcher and the Brewer
Restaurant Name is:Butcher and the Brewer
Link :http://yelp.com/biz/butcher-and-the-brewer-cleveland?osq=Restaurants
Location:2843 E 4th StCleveland, OH 44115
Extracting Reviews for :The Bourbon Street Barrel Room
Restaurant Name is:The Bourbon Street Barrel Room
Link :http://yelp.com/biz/the-bourbon-street-barrel-room-cleveland?osq=Restaurants
Location:2393 Professor AveCleveland, OH 44113
Extracting Reviews for :Noble Beast Brewing
Restaurant Name is:Noble Beast Brewing
Link :http://yelp.com/biz/noble-beast-brewing-cleveland-4?osq=Restaurants
Location:1470 Lakeside Ave ECleveland, OH 44114
Extracting Reviews for :L'Albatros
Restaurant Name is:L'Albatros
Link :http://yelp.com/biz/l-albatros-cleveland?osq=Restaurants
Location:11481 Bellflower RdCleveland, OH 44106
Extracting Reviews for :Mia Bella Restaurant
Restaurant Name is:Mia Bella Restaurant
Link :http://yelp.com/biz/mia-bella-restaurant-cleveland?osq=Restaurants
Location:12200 Mayfield RdCleveland, OH 44106
Extracting Reviews for :LJ Shanghai
Restaurant Name is:LJ Shanghai
Link :http://yelp.com/biz/lj-shanghai-cleveland?osq=Restaurants

The extracted Reviews, ratings , text and Restaurant name are then inserted into the SQL database.

```
110
111
112 def extract_info(cursor, restName, rest_link):
113
114     Reviews_df=pd.DataFrame(columns=['Restaurant','Location','Reviewer','Ratings','Review'])
115
116     print("Extracting the reviews for:")
117     print("Restaurant Name is:"+restName)
118     print("Link :"+rest_link)
119
120
121     page=requests.get(rest_link)
122     tree=html.fromstring(page.content)
123     html_etree=etree.ElementTree(tree)
124
125     location=html_etree.xpath("//address/text()")
126     location="".join(location)
127
128     print("Location:"+location)
129
130     #Gets a list of all the reviews
131     listing = html_etree.xpath("//li[@class='Lemon--li_373c0_1r9wz margin-b3_373c0_q1DuV padding-1"]
132     for results in listing:
133         names=results.xpath("//span[@class='Lemon--a_373c0_1E2FH link_373c0_1G70M link-color--u
134         ratings=results.xpath("//span[@class='Lemon--span_373c0_3997G display--inline_373c0_37qBP
135         text=results.xpath("//span[@class='Lemon--span_373c0_3997G row_373c0_3rKqk']/text()")
136
137         insert_row_into_table(cursor,restName, location, names[0], ratings[0], text[0])
138
139     dict={'Restaurant':restName, 'Location':location, 'Reviewer':names[0], 'Ratings':ratings[0], 'Revi
140     Reviews_df=Reviews_df.append(dict,ignore_index=True)
141
142     print(Reviews_df)
143     Reviews_df.to_csv('Reviews.csv')
144
145
146
147
148
```

raw_373c0_3rKqk

Extracting Reviews for :The Bourbon Street Barrel Room
Restaurant Name is:The Bourbon Street Barrel Room
Link :http://yelp.com/biz/the-bourbon-street-barrel-room-cleveland?osq=Restaurants
Location:2393 Professor AveCleveland, OH 44113

Restaurant	Reviewer	Ratings	Review
The Bourbon Street Barrel Room	While in Cleveland for a weekend visit I check...
The Bourbon Street Barrel Room	This restaurant has been on my "must try" list...
The Bourbon Street Barrel Room	Always a great meal! Brunch, happy hour or di...
The Bourbon Street Barrel Room	What a fun yummy taste of the Big Easy! There ...
The Bourbon Street Barrel Room	We went to BSR last night and it was packed! ...
The Bourbon Street Barrel Room	Awesome restaurant. Unique foods. Definitely a...
The Bourbon Street Barrel Room	Came here after the winter warmer beer fest. ...
The Bourbon Street Barrel Room	What a wonderful taste of NOLA in Cleveland. I...
The Bourbon Street Barrel Room	Okay Yelp, 5 stars is just not enough for Bour...
The Bourbon Street Barrel Room	I'm not a huge cajun/creole fan, but every onc...
The Bourbon Street Barrel Room	It was a very poor rendition of MIA style culi...
The Bourbon Street Barrel Room	This place has all the potential with none of ...
The Bourbon Street Barrel Room	The scene definitely as active and was a great...
The Bourbon Street Barrel Room	Oh My Gosh! This place is absolutely amazing! ...
The Bourbon Street Barrel Room	Just like New Orleans
The Bourbon Street Barrel Room	I got the fresh blackened catfish meuniere wit...
The Bourbon Street Barrel Room	Feel like a night in the big easy, but realizi...
The Bourbon Street Barrel Room	So glad to see this Tremont gem reopen. I had...
The Bourbon Street Barrel Room	Atmosphere - awesome! This NOLA styled resta...
The Bourbon Street Barrel Room	First time customers to this interesting resta...

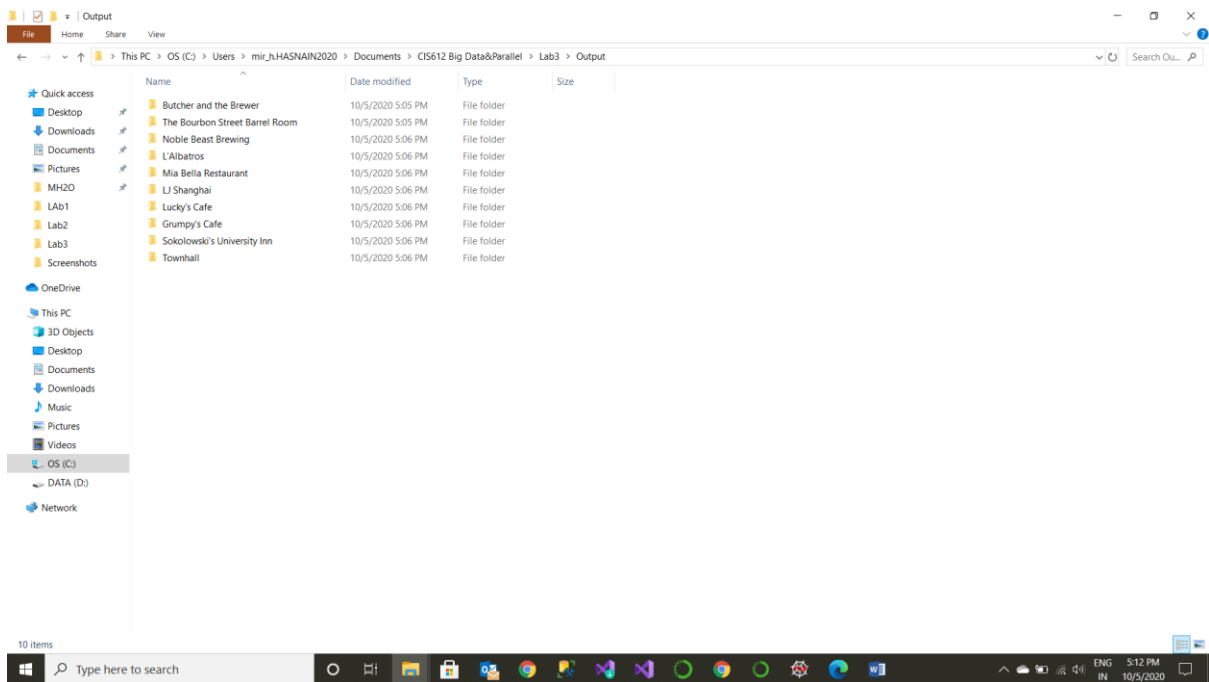
Put all the reviews into a csv file

Restaurant	Location	Reviewer	Ratings	Review
Butcher ar 2043 E 4th Sarah J.	2043 E 4th Sarah J.	5 star	ratr	I'm so happy this place is finally open.
1 Butcher ar 2043 E 4th Oscar G.	2043 E 4th Oscar G.	5 star	ratr	Butcher and the Brewer is an awesome place to head for when you want to share food with friends or family. A I went here pre-Pandemic with three friends and we had an outstanding dining experienc
2 Butcher ar 2043 E 4th Laura P.	2043 E 4th Laura P.	5 star	ratr	Nice place and interesting food and brews. Love the concept of shared plates. For 2 of us, we had the charcuterie, sliders, and the breakfast flatbread, which was the perfect amount of food and everyt
3 Butcher ar 2043 E 4th Ba Chomp	2043 E 4th Ba Chomp	5 star	ratr	Attended a beer event in February. A
4 Butcher ar 2043 E 4th Tara K.	2043 E 4th Tara K.	5 star	ratr	Amazing please with great thoughtful service Bs a beautiful view of a lovely street with the best of downtown Cleveland view.
5 Butcher ar 2043 E 4th Elsa C.	2043 E 4th Elsa C.	5 star	ratr	Really impressed. A Excellent service. The atmosphere is great as well, but the food really does stand out here, while the flight was also quite good. It is highly recommended to visit, great experience! C
6 Butcher ar 2043 E 4th Amy M.	2043 E 4th Amy M.	4 star	ratr	We had such a fun time here. My husband and I sampled all the beer. Yes- all of it. Great saisons, great lagers, great weisse. I'm not a fan of stouts or IPAs but the husband approved. Service was friendl
7 Butcher ar 2043 E 4th Susan L.	2043 E 4th Susan L.	4 star	ratr	Such good and different food!! It's American food with a bit of a twist. The pork shank is a must try - it is so crispy and the horse radish like sauce that comes with it is very well done.
8 Butcher ar 2043 E 4th Ashley M.	2043 E 4th Ashley M.	5 star	ratr	I had a wonderful time at the Butcher and the Brewer.
9 Butcher ar 2043 E 4th Lauren S.	2043 E 4th Lauren S.	4 star	ratr	We were in Cleveland for a few days and wanted to go somewhere with friends that had something everyone could agree on. It was also within walking distance from our hotel. There was a 45 min wa
10 Butcher ar 2043 E 4th Chelsea E.	2043 E 4th Chelsea E.	4 star	ratr	This one has been on my list for awhile. I finally got a chance to check it out on a fall Sunday evening with my sister and brother-in-law.
11 Butcher ar 2043 E 4th Rose K.	2043 E 4th Rose K.	5 star	ratr	Considering butcher and brewer for a wedding rehearsal dinner. We wanted to view the venue and try the food. A
12 Butcher ar 2043 E 4th Dan R.	2043 E 4th Dan R.	4 star	ratr	Love the way 4th Street is closed off as a pedestrian mall and transformed as vibrant Restaurant Row. The street was crowded and alive when we walked over, and after perusing the endless number of
13 Butcher ar 2043 E 4th Kelli H.	2043 E 4th Kelli H.	5 star	ratr	"Meh, I've experienced better" literally sums up the experience at The Butcher and The Baker. A Nothing outlandishly wrong, but just nothing really right. A My husband and I went here on a recent trip t
14 Butcher ar 2043 E 4th Mark G.	2043 E 4th Mark G.	4 star	ratr	What a cool spot! Very industrial and steampunk looking atmosphere. Our waitress was super wonderful. She didn't once cringe at our dietary preferences (dairy and gluten free) once.
15 Butcher ar 2043 E 4th Leah P.	2043 E 4th Leah P.	5 star	ratr	This place was great! I ended up coming here for a girls night out and it definitely surpassed my expectations. We ordered a variety of dishes to share family-style so that we could get a little taste of ev
16 Butcher ar 2043 E 4th Lazar V.	2043 E 4th Lazar V.	5 star	ratr	One of my favorite places to eat in Cleveland. Butcher and the Brewer is a great place to take a date or a fun place to take the family. The waiting staff is very nice. The food is amazing and the beers ar
17 Butcher ar 2043 E 4th Melissa P.	2043 E 4th Melissa P.	5 star	ratr	I have always had a great experience here! The apps are my favorite too. The atmosphere is phenomenal with the industrial setting.
18 Butcher ar 2043 E 4th Maria G.	2043 E 4th Maria G.	5 star	ratr	Amazing! We had a quick trip to Cleveland and found this gem just a few blocks from our hotel. We weren't super hungry so we did a tapas style meal and nothing disappointed.
19 Butcher ar 2043 E 4th Rose K.	2043 E 4th Rose K.	5 star	ratr	Wow... awesome place, great cocktails, menu, and service!! However, they hate broccoli, so they overcooked it.... more about that later!! A Shame on them!! Stopped by after some cocktails.... restau
20 The Bourb 2393 Prof Rose K.	2393 Prof Rose K.	5 star	ratr	While in Cleveland for a weekend visit I checked Yelp to find some good food and this place came up and caught my eye. I called to confirm if they were open and yes they were so we jumped in the car
21 The Bourb 2393 Prof Bob C.	2393 Prof Bob C.	5 star	ratr	This restaurant has been on my "must try" list for quite a while now so tonight we decided to make the trip and give it a try, and boy were we happy. We arrived without a reservation and after the two
22 The Bourb 2393 Prof Melissa J.	2393 Prof Melissa J.	4 star	ratr	Always a great meal! A Brunch, happy hour or dinner, great service and food always on the menu at The Bourbon Street Barrel Room. A
23 The Bourb 2393 Prof Dana H.	2393 Prof Dana H.	5 star	ratr	What a fun yummy taste of the Big Easy! There were so many great things about this place. From the happy hour that goes till 7, to the super friendly and helpful staff, and not to mention...the food!! I
24 The Bourb 2393 Prof Sarah J.	2393 Prof Sarah J.	5 star	ratr	We went to BSR last night and it was packed! But I can tell you why. The environment is straight out of Louisiana. Cool, chill, dim lit and beautiful. But the food! My fianc@ LOVES the jambalaya with
25 The Bourb 2393 Prof Michael G.	2393 Prof Michael G.	5 star	ratr	Awsome restaurant. Unique foods. Definitely a place I need to revisit. The atmosphere is lively with lots of distractions. A Decor is excellent. A Staff is nice however our waitress stated she doesn't dri
26 The Bourb 2393 Prof Rose K.	2393 Prof Rose K.	5 star	ratr	Came here after the winter warmer beer fest. A The food was excellent and the service by Justin was awesome. A
27 The Bourb 2393 Prof Bob C.	2393 Prof Bob C.	5 star	ratr	What a wonderful taste of NOLA in Cleveland. It was a Sunday an the browns AND the tribe had lost so I went to cheer up with some Cajun yummies. The waitress called me and my wife hon and I thoug
28 The Bourb 2393 Prof Rebecca L.	2393 Prof Rebecca L.	5 star	ratr	Okay Yelp. 5 stars is just not enough for Bourbon Street Barrel Room! My hubbz and I stonned in on a Friday night for his birthday dinner. The decor instantly drew me in - the colorful walls, rattened c

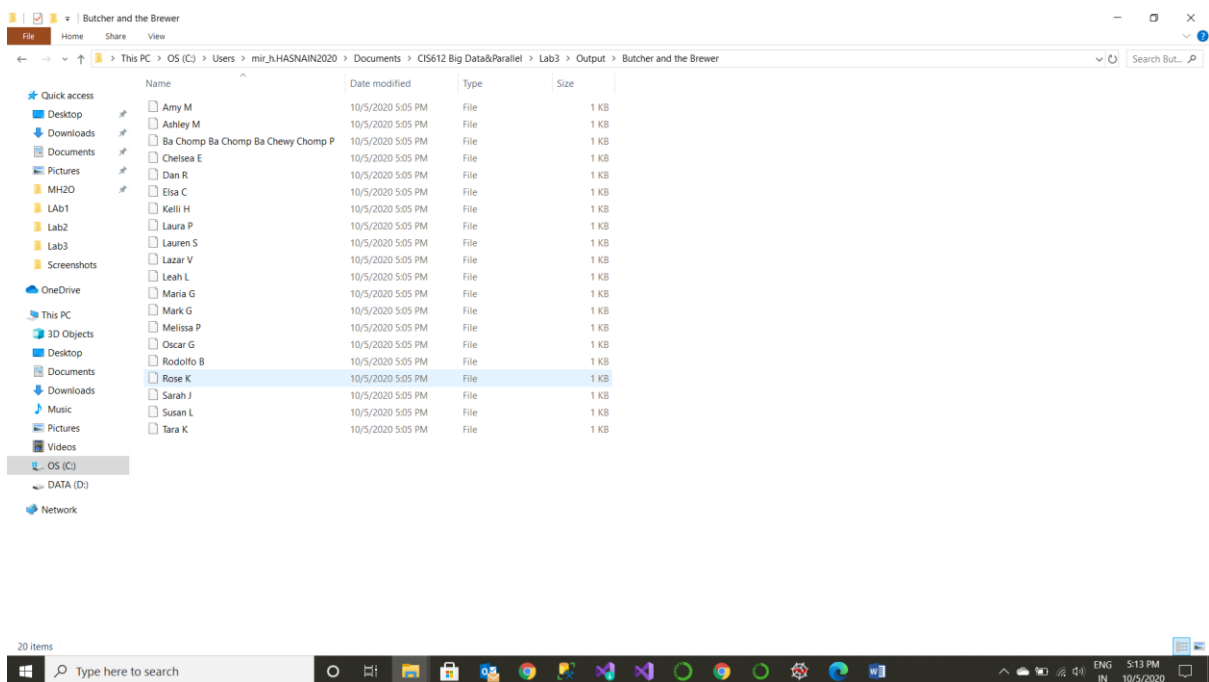
Also inserting the reviews into the SQL server

RESTAURANT_NAME	LOCATION	REVIEWER_NAME	RATINGS	REVIEW_TEXT
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Sarah J.	5 star	I'm so happy this place is finally open.
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Oscar G.	5 star	Butcher and the Brewer is an awesome place to hea...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Laura P.	5 star	Nice place and interesting food and brews. Love the ...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Ba Chomp Ba Chomp Ba Chomp P.	5 star	Attended a beer event in February.
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Tara K.	5 star	Amazing please with great thoughtful service Bs a b...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Elsa C.	5 star	Really impressed. Excellent service. The atmospher...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Amy M.	4 star	We had such a fun time here. My husband and I sa...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Susan L.	4 star	Such good and different food!! It's American food wit...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Ashley M.	5 star	I had a wonderful time at the Butcher and the Brewer.
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Lauren S.	4 star	We were in Cleveland for a few days and wanted to g...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Chelsea E.	4 star	This one has been on my list for awhile. I finally got a...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Rose K.	5 star	Considering butcher and brewer for a wedding rehe...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Dan R.	4 star	Love the way 4th Street is closed off as a pedestria...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Melissa P.	4 star	I have always had a great experience here! The app...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Rose K.	5 star	Came here after the winter warmer beer fest. The fo...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Mary D.	4 star	I'm not a huge cajun/crisole fan, but every once in a...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Kelli H.	2 star	"Meh, I've experienced better" literally sums up the e...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Mark G.	4 star	What a cool spot! Very industrial and steampunk loo...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Leah L.	4 star	This place was great! I ended up coming here for a g...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Lazar V.	5 star	One of my favorite places to eat in Cleveland. Butch...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Maria G.	5 star	Amazing! We had a quick trip to Cleveland and foun...
Butcher and the Brewer	2043 E 4th St Cleveland, OH 44115	Rodolfo B.	4 star	Wow... awesome place, great cocktails, menu, and s...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Linda N.	5 star	While in Cleveland for a weekend visit I checked 'Yel...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Julian F.	4 star	This restaurant has been on my "must try" list for qui...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Dana H.	5 star	What a fun yummy taste of the Big Easy! There were ...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Amanda M.	5 star	Just like New Orleans
L'Albatros	11401 Bellflower Rd Cleveland, OH 44106	Amy S.	3 star	So it was my first time here, and my husband took m...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Michael G.	4 star	Location is behind the Olden House at University C...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Sarah J.	5 star	We went to BSR last night and it was packed! But I...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Michael G.	5 star	Awsome restaurant. Unique foods. Definitely a plac...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Bob C.	5 star	What a wonderful taste of NOLA in Cleveland. It was a...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Rebecca L.	5 star	Okay Yelp. 5 stars is just not enough for Bourbon Str...
The Bourbon Street Barrel Room	2393 Professor Ave Cleveland, OH 44113	Jennifer D.	2 star	It was a very poor rendition of NOLA style cuisine and...

We also create folders of each restaurants in a Output folder



In each restaurant folder there are text files of the reviews of the restaurant.



Source Code:

```
from lxml import html, etree
from urllib.parse import urljoin
import requests
```



```

import os, pyodbc
import pandas as pd

url='https://www.yelp.com/search?find_desc=Restaurants&find_loc=Cle
veland%2C+OH'

server='HASNAIN2020'
database='YELP_RESTAURANTS'
table='REVIEWS'

def main():

    #load the yelp main page
    page=requests.get(url)
    tree=html.fromstring(page.content)
    html_etree=etree.ElementTree(tree)

    #getting the names and links of all restaurants
    print("getting a list of all the restaurants\n")
    links=html_etree.xpath("//span[@class='lemon--
span__09f24__3997G text__09f24__2tZKC text-color--black-
regular__09f24__1QxyO text-align--left__09f24__3Drs0 text-weight--
bold__09f24__WGVdT text-size--inherit__09f24__2rwpp']/a")
    #putting them in a data frame and then later to a csv file
    Rest_df=pd.DataFrame(columns=['Name','link'])
    for link in links:
        Rest_df=Rest_df.append({'Name':link.attrib['name'],
'link':'http://yelp.com/'+link.attrib['href']},ignore_index=True)

    print(Rest_df)
    Rest_df.to_csv('links.csv')

    #creating a table and connecting to the server
    cursor=connect_to_sql_server()

```

```

#fetching and putting the reviews for each restaurant

for i in range(1,len(Rest_df)):
    print("Extracting Reviews for :"+Rest_df['Name'].values[i])
    makeDirectory(Rest_df['Name'].values[i])

extract_info(cursor,Rest_df['Name'].values[i],Rest_df['link'].values[i])

def connect_to_sql_server():
    #connect to sql server
    print("Connecting to the server")
    odbc_conn=pyodbc.connect('DRIVER={SQL
SERVER};SERVER='+server+';Trusted_Connection=yes;')
    odbc_conn.autocommit=True
    cursor=odbc_conn.cursor()

    #create db if does not exist
    transaction="IF DB_ID('{0}') IS NULL CREATE DATABASE
{0};".format(database)
    cursor.execute(transaction)
    if(cursor==True):
        print("created db")

    transaction="USE {0}".format(database)
    cursor.execute(transaction)
    if(cursor==True):
        print("Use db")

    #drop table if exists
    transaction="IF OBJECT_ID('dbo.{0}') IS NOT NULL DROP TABLE
dbo.{0};".format(table)
    cursor.execute(transaction)

    #create table
    print("table created")

```

```
transaction=" CREATE TABLE dbo.{0} (RESTAURANT_NAME  
VARCHAR(30),LOCATION VARCHAR(50), REVIEWER_NAME  
VARCHAR(45),RATINGS VARCHAR(15), REVIEW_TEXT  
NVARCHAR(MAX));".format(table)  
cursor.execute(transaction)
```

```
return cursor
```

```
def insert_row_into_table(cursor,name,location,reviewer,ratings,text):  
    text=text.replace("'",'')  
    reviewer=reviewer.replace("'",'')  
    name=name.replace("'",'')
```

```
#create databse if doesnt exist
```

```
transaction="INSERT INTO {0} VALUES(  
'{1}','{2}','{3}','{4}','{5}');".format(table,name,location,reviewer,ratings,te  
xt)  
cursor.execute(transaction)  
write_to_file(name,reviewer,text)
```

```
def extract_info(cursor, restName,rest_link):
```

```
    print("\nExtracting the reviews for:")  
    print("Restaurant Name is:"+restName)  
    print("link :"+rest_link)
```

```

page=requests.get(rest_link)
tree=html.fromstring(page.content)
html_etree=etree.ElementTree(tree)

location=html_etree.xpath(".*//address//text()")
location="".join(location)

print("Location:"+location)

#Gets a list of all the reviews
listing = html_etree.xpath(".*//li[@class='lemon--li__373c0__1r9wz
margin-b3__373c0__q1DuY padding-b3__373c0__342DA border--
bottom__373c0__3qNtD border-color--default__373c0__3-ifU']")
for results in listing:
    names=results.xpath(".*//span/a[@class='lemon--a__373c0__IEZFH
link__373c0__1G70M link-color--inherit__373c0__3dzpk link-size--
inherit__373c0__1VFIE']/text()")
    ratings=results.xpath(".*//span[@class='lemon--
span__373c0__3997G display--inline__373c0__3JqBP border-color--
default__373c0__3-ifU']/div/@aria-label")
    text=results.xpath(".*//span[@class='lemon--span__373c0__3997G
raw__373c0__3rKqk']/text()")

    insert_row_into_table(cursor,restName, location, names[0],
ratings[0], text[0])

def write_to_file(resname,file_name,text):
    #print("inside write to file function")
    file_path=os.path.dirname(os.path.realpath(__file__))
    file_path=os.path.join(file_path, 'Output')
    file_path=os.path.join(file_path, resname)
    file_name=file_name.replace("","").replace(".", "")
    file_path=os.path.join(file_path,file_name)

```

```
#print(file_path)
```

```
file=open(file_path,"a")
```

```
file.write(text)
```

```
file.close()
```

```
return file_path
```

```
def makeDirectory(resName):
```

```
    path=os.path.dirname(os.path.realpath(__file__))
```

```
    path=os.path.join(path,'Output')
```

```
    path=os.path.join(path, resName)
```

```
    #print(path)
```

```
    os.mkdir(path)
```

```
main()
```