Concert Finder

In [ ]:

```
import pandas as pd
import requests
from sqlalchemy import create_engine
# sqlalchemy provides a set of tools for interacting with SQL databases usir
```

```
/Users/shaileshmahto/Documents/UB/Academics/CSE_560_Data_Models_and_Query_La
nguage/Databases/concert-finder/venv/lib/python3.9/site-packages/urllib3/__i
nit__.py:35: NotOpenSSLWarning: urllib3 v2 only supports OpenSSL 1.1.1+, cur
rently the 'ssl' module is compiled with 'LibreSSL 2.8.3'. See: https://gith
ub.com/urllib3/urllib3/issues/3020
  warnings.warn(
```

Data Collection using API

In [ ]:

```
# making the rest API call
url = "https://app.ticketmaster.com/discovery/v2/events?apikey=QOXJm5N0BfIVG

payload = {}
headers = {}

response = requests.request("GET", url, headers=headers, data=payload)
response_json = response.json()
```

In [ ]:

```
# parsing the json response
events_json = response_json['_embedded']['events']
events = [event_json for event_json in events_json]
```

In [ ]:

```
events_list = []
for event in events:

    name = event["name"]
    id = event["id"]
    url = event["url"]
    event_start_date = event["dates"]["start"]["localDate"]
    event_start_time = event["dates"]["start"]["localTime"]
    # TODO: Check price range for multiple values
    priceRanges_min = [priceRange["min"] for priceRange in event["priceRange
    priceRanges_max = [priceRange["max"] for priceRange in event["priceRange
    seatmap = event["seatmap"]["staticUrl"]
    ageRestrictions = event["ageRestrictions"]["legalAgeEnforced"]
    # subgenre and genre
    event_subgenres, event_genres, event_segments = [], [], []
    event_subgenres_ids, event_genres_ids, event_segments_ids = [], [], []
    for classification in event["classifications"]:
        event_subgenres.append(classification["subGenre"]["name"])
        event_genres.append(classification["genre"]["name"])
        event_segments.append(classification["segment"]["name"])
        event_subgenres_ids.append(classification["subGenre"]["id"])
        event_genres_ids.append(classification["genre"]["id"])
        event_segments_ids.append(classification["segment"]["id"])

    venues = event["_embedded"]["venues"]
    venue_ids, venue_names, venue_postalCodes, venue_citys = [], [], [], []
    venue_state_names, venue_state_codes, venue_countrys, venue_country_code
    venue_addresses, venue_lats, venue_longs = [], [], []
    for venue in venues:
        venue_names.append(venue["name"])
        venue_ids.append(venue["id"])
        venue_postalCodes.append(venue["postalCode"])
        venue_citys.append(venue["city"]["name"])
        venue_state_names.append(venue["state"]["name"])
        venue_state_codes.append(venue["state"]["stateCode"])
        venue_countrys.append(venue["country"]["name"])
        venue_country_codes.append(venue["country"]["countryCode"])

        venue_addresses.append(venue["address"]["line1"])

        venue_lats.append(venue["location"]["latitude"])
        venue_longs.append(venue["location"]["longitude"])

    attractions = event["_embedded"]["attractions"]
    artists, artist_ids = [], []
    for attraction in attractions:
        artists.append(attraction["name"])
        artist_ids.append(attraction["id"])

    rec = {
        # event table
        "name" : name,
        "url" : url,
        "id" : id ,
        "start_date": event_start_date,
        "start_time": event_start_time,
        "price_min": priceRanges_min,
        "price_max": priceRanges_max,
        "seatmap_url": seatmap,
        "age_restrictions": ageRestrictions,

        # genre table
        "event_subgenres": event_subgenres,
        "event_genres": event_genres,
        "event_segments": event_segments,
        "event_subgenres_ids": event_subgenres_ids,
        "event_genres_ids": event_genres_ids,
        "event_segments_ids": event_segments_ids,


        # event table
        "venue_ids": venue_ids,
        "venue_names": venue_names,
        "venue_postalCodes": venue_postalCodes,

        # city table
        "venue_citys": venue_citys,
        "venue_state_names": venue_state_names,
        "venue_state_codes": venue_state_codes,
        "venue_countrys": venue_countrys,
        "venue_country_codes": venue_country_codes,

        # event table
        "venue_addresses": venue_addresses,
        "venue_lats": venue_lats,
        "venue_longs": venue_longs,

        # artist table columns
        "artists": artists,
        "artist_ids": artist_ids
    }
    events_list.append(rec)
```

In [ ]:

```
# getting a list of column names using the dictionary of 1 record
columns = list(rec.keys())
columns
```

Out[ ]:

```
['name',
 'url',
 'id',
 'start_date',
 'start_time',
 'price_min',
 'price_max',
 'seatmap_url',
 'age_restrictions',
 'event_subgenres',
 'event_genres',
 'event_segments',
 'event_subgenres_ids',
 'event_genres_ids',
 'event_segments_ids',
 'venue_ids',
 'venue_names',
 'venue_postalCodes',
 'venue_citys',
 'venue_state_names',
 'venue_state_codes',
 'venue_countrys',
 'venue_country_codes',
 'venue_addresses',
 'venue_lats',
 'venue_longs',
 'artists',
 'artist_ids']
```

In [ ]:

```
event_v1_df = pd.DataFrame(data = events_list , columns = columns)
```

In [ ]:

```
event_v1_df
```

Out[ ]:

	name	url	id	start_date
0	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	vvG1zZbd2170TS	2024-04-10
1	Offset - Set It Off Tour	https://www.ticketmaster.com/offset-set-it-off...	k7vGFbd5I4AHR	2024-03-14
2	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	vv1AvZkZwGkeY9NrU	2024-03-15
3	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	G5vYZbdC9Ed-8	2024-03-30
4	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	vv1A7ZkZwGkd2ws_Q	2024-03-23
5	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	vv1AeZkZSGkeXw4Pr	2024-03-10
6	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	vv1AFZkZwGketOwxC	2024-03-19
7	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	1A4ZkZwGkdJYwWn	2024-03-12
8	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	vv1AaZkZSGkeiOg8_	2024-03-29
9	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	1avbZbd89k4ZdGv1	2024-03-22

	name	url	id	start_date
10	Offset - Set It Off Tour	https://www.ticketmaster.com/offset-set-it-off...	vvG1YZbdGCsA06	2024-04-05
11	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	1A_ZkZwGkeUwxuk	2024-04-03
12	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	G5dIZbd2M-4PB	2024-04-07
13	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	G5vzZbd2hhfbx	2024-03-27
14	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	vv1AaZkZwGkeEXe8_	2024-04-01
15	Offset - Set It Off Tour	https://concerts.livenation.com/offset-set-it-...	vv1AFZkZwGke0Pe54	2024-03-20
16	Offset - Set It Off Tour After Party	https://www.ticketmaster.com/offset-set-it-off...	vv177Zb7GkT4YpFz	2024-03-15
17	Weekends with Adele	https://www.ticketmaster.com/weekends-with-ade...	G5d0Z9gejSYYD	2024-03-01
18	Weekends with Adele	https://www.ticketmaster.com/weekends-with-ade...	G5d0Z9gejVOs1	2024-03-02
19	Weekends with Adele	https://www.ticketmaster.com/weekends-with-ade...	G5d0Z9gejg8s9	2024-03-08

20 rows × 28 columns

```
In [ ]: # creating the dataframe
        event_df = pd.DataFrame(columns=["id", "name", "url", "start_date", "start_t
        genre_df = pd.DataFrame(columns=["id", "sub_genre", "genre", "segment"])

        genre_event_bridge_df = pd.DataFrame(columns=["id", "event_id", "sub_genre_i

        attraction_df = pd.DataFrame(columns=["id", "name"])

        event_attraction_df = pd.DataFrame(columns=["id", "attraction_id", "event_ic

        city_df = pd.DataFrame(columns=["id", "city", "state", "state_code", "countr
```

Working with database

In [ ]:

```
#flask_sqlalchemy integrates SQLAlchemy into youout Flask application to per
pip install flask_sqlalchemy
```

```
Defaulting to user installation because normal site-packages is not writeabl
e
Requirement already satisfied: flask_sqlalchemy in /Users/abhiroopghosh/Libr
ary/Python/3.9/lib/python/site-packages (3.1.1)
Requirement already satisfied: flask>=2.2.5 in /Users/abhiroopghosh/Library/
Python/3.9/lib/python/site-packages (from flask_sqlalchemy) (3.0.2)
Requirement already satisfied: sqlalchemy>=2.0.16 in /Users/abhiroopghosh/Li
brary/Python/3.9/lib/python/site-packages (from flask_sqlalchemy) (2.0.27)
Requirement already satisfied: Werkzeug>=3.0.0 in /Users/abhiroopghosh/Libra
ry/Python/3.9/lib/python/site-packages (from flask>=2.2.5->flask_sqlalchemy)
(3.0.1)
Requirement already satisfied: blinker>=1.6.2 in /Users/abhiroopghosh/Librar
y/Python/3.9/lib/python/site-packages (from flask>=2.2.5->flask_sqlalchemy)
(1.7.0)
Requirement already satisfied: Jinja2>=3.1.2 in /Users/abhiroopghosh/Librar
y/Python/3.9/lib/python/site-packages (from flask>=2.2.5->flask_sqlalchemy)
(3.1.3)
Requirement already satisfied: click>=8.1.3 in /Users/abhiroopghosh/Library/
Python/3.9/lib/python/site-packages (from flask>=2.2.5->flask_sqlalchemy)
(8.1.7)
Requirement already satisfied: itsdangerous>=2.1.2 in /Users/abhiroopghosh/L
ibrary/Python/3.9/lib/python/site-packages (from flask>=2.2.5->flask_sqlalch
emy) (2.1.2)
Requirement already satisfied: importlib-metadata>=3.6.0 in /Users/abhiroopg
hosh/Library/Python/3.9/lib/python/site-packages (from flask>=2.2.5->flask_s
qlalchemy) (7.0.1)
Requirement already satisfied: zipp>=0.5 in /Users/abhiroopghosh/Library/Pyt
hon/3.9/lib/python/site-packages (from importlib-metadata>=3.6.0->flask>=2.
2.5->flask_sqlalchemy) (3.17.0)
Requirement already satisfied: MarkupSafe>=2.0 in /Users/abhiroopghosh/Libra
ry/Python/3.9/lib/python/site-packages (from Jinja2>=3.1.2->flask>=2.2.5->fl
ask_sqlalchemy) (2.1.5)
Requirement already satisfied: typing-extensions>=4.6.0 in /Users/abhiroopgh
osh/Library/Python/3.9/lib/python/site-packages (from sqlalchemy>=2.0.16->fl
ask_sqlalchemy) (4.9.0)
WARNING: You are using pip version 21.2.4; however, version 24.0 is availabl
e.
You should consider upgrading via the '/Library/Developer/CommandLineTools/u
sr/bin/python3 -m pip install --upgrade pip' command.
Note: you may need to restart the kernel to use updated packages.
```

In [ ]:

```
pip install psycopg2-binary
```

```
Defaulting to user installation because normal site-packages is not writeabl
e
Collecting psycopg2-binary
  Downloading psycopg2_binary-2.9.9-cp39-cp39-macosx_11_0_arm64.whl (2.6 MB)
     |████████████████████████████████| 2.6 MB 2.3 MB/s eta 0:00:01
Installing collected packages: psycopg2-binary
Successfully installed psycopg2-binary-2.9.9
WARNING: You are using pip version 21.2.4; however, version 24.0 is availabl
e.
You should consider upgrading via the '/Library/Developer/CommandLineTools/u
sr/bin/python3 -m pip install --upgrade pip' command.
Note: you may need to restart the kernel to use updated packages.
```

In [ ]:

```
# credentials only included in the current version of file, final versio  wi
# Specify your PostgreSQL database connection parameters
db_username = 'postgres' # same dn_username for all of us
db_password = '9820619960' #wahtever your server password is for access
db_host = 'localhost'  # hostname(localhost in our case)
db_port = '5432'  # Default PostgreSQL port is 5432 (should be same for all
db_name = 'DMQL NYSYNC'

# Construct the database connection string
connection_string = f'postgresql://{db_username}:{db_password}@{db_host}:{db

# Create the engine
engine = create_engine(connection_string)
```

In [ ]:

```
# Load data into SQL tables
event_df.to_sql('events', con=engine, index=False, if_exists='append')
genre_df.to_sql('genres', con=engine, index=False, if_exists='append')
genre_event_bridge_df.to_sql('genre_event_bridge', con=engine, index=False,
attraction_df.to_sql('attractions', con=engine, index=False, if_exists='appe
event_attraction_df.to_sql('event_attractions', con=engine, index=False, if_
city_df.to_sql('cities', con=engine, index=False, if_exists='append')
```

Out[ ]:

```
0
```

In [ ]:

```
event_v1_df.to_sql('events_df', con=engine, index=False, if_exists='append')
```

Out[ ]:

```
20
```