

```
In [1]: %load_ext sql
%sql mysql+mysqlconnector://root:root@localhost/test
```

```
In [2]: %%sql
use spotify_db
* mysql+mysqlconnector://root:***@localhost/test
0 rows affected.
```

```
Out[2]: []
```

```
In [3]: %%sql
select * from spotify_tracks
* mysql+mysqlconnector://root:***@localhost/test
10 rows affected.
```

	id	track_name	artist	album	popularity	duration_minutes
1	Ordinary Person (From "Leo")	Anirudh Ravichander	Ordinary Person (From "Leo")		63	2.32
2	Ayyayo	G. V. Prakash	Aadukalam (Original Motion Picture Soundtrack)		70	5.40622
3	Pirai Thendum	Saindhavi	Mayakkam Enna		73	5.54518
4	Ava Enna	Harris Jayaraj	Vaaranam Aayiram (Original Motion Picture Soundtrack)		67	5.30822
5	Psycho Kanmani	Havoc Brothers	Psycho Kanmani		37	4.26667
6	Nee Singam Dhan	A.R. Rahman	Pathu Thala (Original Motion Picture Soundtrack)		70	4.1299
7	Oru Devathai	Yuvan Shankar Raja	Vaamanan (Original Motion Picture Soundtrack)		63	4.946
8	Monica	Anirudh Ravichander	Coolie (Original Motion Picture Soundtrack)		68	3.62712
9	Thalapathy Kacheri (From "Jana Nayagan")	Anirudh Ravichander	Thalapathy Kacheri (From "Jana Nayagan")		76	3.28507
10	Ichu Ichu	Vijay Antony	Vedi (Original Motion Picture Soundtrack)		65	3.7783

```
In [13]: %%sql
/* Most popular song*/
select track_name, artist, album, popularity
from spotify_tracks
order by popularity desc
limit 1;
```

```
* mysql+mysqlconnector://root:***@localhost/test
1 rows affected.
```

Out[13]:

track_name	artist	album	popularity
Thalapathy Kacheri (From "Jana Nayagan")	Anirudh Ravichander	Thalapathy Kacheri (From "Jana Nayagan")	76

In [14]:

```
%%sql
/* Average of over all song*/
select AVG(popularity) as Average_popularity
from spotify_tracks
```

```
* mysql+mysqlconnector://root:***@localhost/test
1 rows affected.
```

Out[14]: **Average_popularity**

65.5714

In [16]:

```
%%sql
/* duration 5 minutes above*/
select track_name, artist, duration_minutes
from spotify_tracks
where duration_minutes > 5.0;
```

```
* mysql+mysqlconnector://root:***@localhost/test
7 rows affected.
```

Out[16]:

track_name	artist	duration_minutes
Ayyayo	G. V. Prakash	5.40622
Pirai Thendum	Saindhavi	5.54518
Ava Enna	Harris Jayaraj	5.30822
Vaarayo Vaarayo	Harris Jayaraj	5.278
Ayyayo	G. V. Prakash	5.40622
Pirai Thendum	Saindhavi	5.54518
Ava Enna	Harris Jayaraj	5.30822

In [17]:

```
%%sql
/*popular range in case statement*/
select
  case
    when popularity >= 80 then 'Very Popular'
    when popularity >=50 then 'Popular'
    else 'Less Popular'
  end as popularity_range,
  count(*) as track_count
from spotify_tracks
group by popularity_range
```

```
* mysql+mysqlconnector://root:***@localhost/test
2 rows affected.
```

Out[17]: popularity_range track_count

Popular	19
Less Popular	2

In [19]:

```
%%sql
/*Longest track*/
select track_name, artist, duration_minutes
from spotify_tracks
order by duration_minutes desc
limit 1;
```

* mysql+mysqlconnector://root:***@localhost/test
1 rows affected.

Out[19]: track_name artist duration_minutes

Pirai Thendum	Saindhavi	5.54518
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In [20]:

```
%%sql
/*shortest track*/
select track_name, artist, duration_minutes
from spotify_tracks
order by duration_minutes asc
limit 1;
```

* mysql+mysqlconnector://root:***@localhost/test
1 rows affected.

Out[20]:

track_name	artist	duration_minutes
Ordinary Person (From "Leo")	Anirudh Ravichander	2.32

In [21]:

```
%%sql
/*Unique artists*/
SELECT DISTINCT artist
FROM spotify_tracks;
```

* mysql+mysqlconnector://root:***@localhost/test
8 rows affected.

Out[21]:

artist
Anirudh Ravichander
G. V. Prakash
Saindhavi
Harris Jayaraj
Havoc Brothers
A.R. Rahman
Yuvan Shankar Raja
Vijay Antony

In [24]:

```
%%sql
/*Average durartion of track*/
```

```
select avg(duration_minutes) as avg_duration
from spotify_tracks

* mysql+mysqlconnector://root:***@localhost/test
1 rows affected.
```

Out[24]: **avg_duration**

4.309682528177897

In [26]: **%%sql**

```
/*Tracks with popularity > average popularity*/
select track_name, artist, popularity
from spotify_tracks
where popularity > (select avg(popularity) from spotify_tracks);
```

```
* mysql+mysqlconnector://root:***@localhost/test
13 rows affected.
```

Out[26]:

	track_name	artist	popularity
	Ayyayo	G. V. Prakash	70
	Pirai Thendum	Saindhavi	73
	Ava Enna	Harris Jayaraj	67
	Nee Singam Dhan	A.R. Rahman	70
	Monica	Anirudh Ravichander	68
Thalapathy Kacheri (From "Jana Nayagan")		Anirudh Ravichander	76
	Vaarayo Vaarayo	Harris Jayaraj	73
	Ayyayo	G. V. Prakash	70
	Pirai Thendum	Saindhavi	73
	Ava Enna	Harris Jayaraj	67
	Nee Singam Dhan	A.R. Rahman	70
	Monica	Anirudh Ravichander	68
Thalapathy Kacheri (From "Jana Nayagan")		Anirudh Ravichander	76

In [35]:

```
import pandas as pd
from sqlalchemy import create_engine

engine = create_engine("mysql+pymysql://root:root@localhost/spotify_db")
folder = r"C:\Users\abdu\OneDrive\Desktop\New folder"

queries = {
    "open spotify_tracks" : """select * from spotify_tracks""",

    "Most popular song" : """select track_name, artist, album, popularity
                           from spotify_tracks
                           order by popularity desc
                           limit 1;""",

    "Average of over all son" : """select AVG(popularity) as Average_popularity
                                    from spotify_tracks""",
```

```

"duration 5 minutes above" : """select track_name, artist, duration_minutes
                                from spotify_tracks
                                where duration_minutes > 5.0;""",

"popular range in case statement" : """select
                                         case
                                             when popularity >= 80 then 'Very Popular'
                                             when popularity >=50 then 'Popular'
                                             else 'Less Popular'
                                         end as popularity_range,
                                         count(*) as track_count
                                from spotify_tracks
                                group by popularity_range""",

"longest track" : """select track_name, artist, duration_minutes
                                from spotify_tracks
                                order by duration_minutes desc
                                limit 1;""",

"shortest track" : """select track_name, artist, duration_minutes
                                from spotify_tracks
                                order by duration_minutes asc
                                limit 1""",

"Unique artists" : """SELECT DISTINCT artist
                            FROM spotify_tracks;""",

"Average durartion of track" : """select avg(duration_minutes) as avg_duration
                                from spotify_tracks""",

"Tracks with popularity above average popularity" : """select track_name, artist, duration_minutes
                                         from spotify_tracks
                                         where popularity > (select
                                         avg(popularity)
                                         from spotify_tracks);""",

}

for name, query in queries.items():
    try:
        df = pd.read_sql(query, engine)
        file_path = f"{folder}\\{name}.csv"
        df.to_csv(file_path, index=False)
        print(f"✓ Saved {file_path}")
    except Exception as e:
        print(f"✗ Error in query '{name}': {e}")

```

- ✓ Saved C:\Users\abdul\OneDrive\Desktop\New folder\open spotify_tracks.csv
- ✓ Saved C:\Users\abdul\OneDrive\Desktop\New folder\Most popular song.csv
- ✓ Saved C:\Users\abdul\OneDrive\Desktop\New folder\Average of over all son.csv
- ✓ Saved C:\Users\abdul\OneDrive\Desktop\New folder\duration 5 minutes above.csv
- ✓ Saved C:\Users\abdul\OneDrive\Desktop\New folder\popular range in case statement.csv
- ✓ Saved C:\Users\abdul\OneDrive\Desktop\New folder\longest trac.csv
- ✓ Saved C:\Users\abdul\OneDrive\Desktop\New folder\shortest track.csv
- ✓ Saved C:\Users\abdul\OneDrive\Desktop\New folder\Unique artists.csv
- ✓ Saved C:\Users\abdul\OneDrive\Desktop\New folder\Average durartion of track.csv
- ✓ Saved C:\Users\abdul\OneDrive\Desktop\New folder\Tracks with popularity above average popularity.csv

In []: