Music Wrapped!

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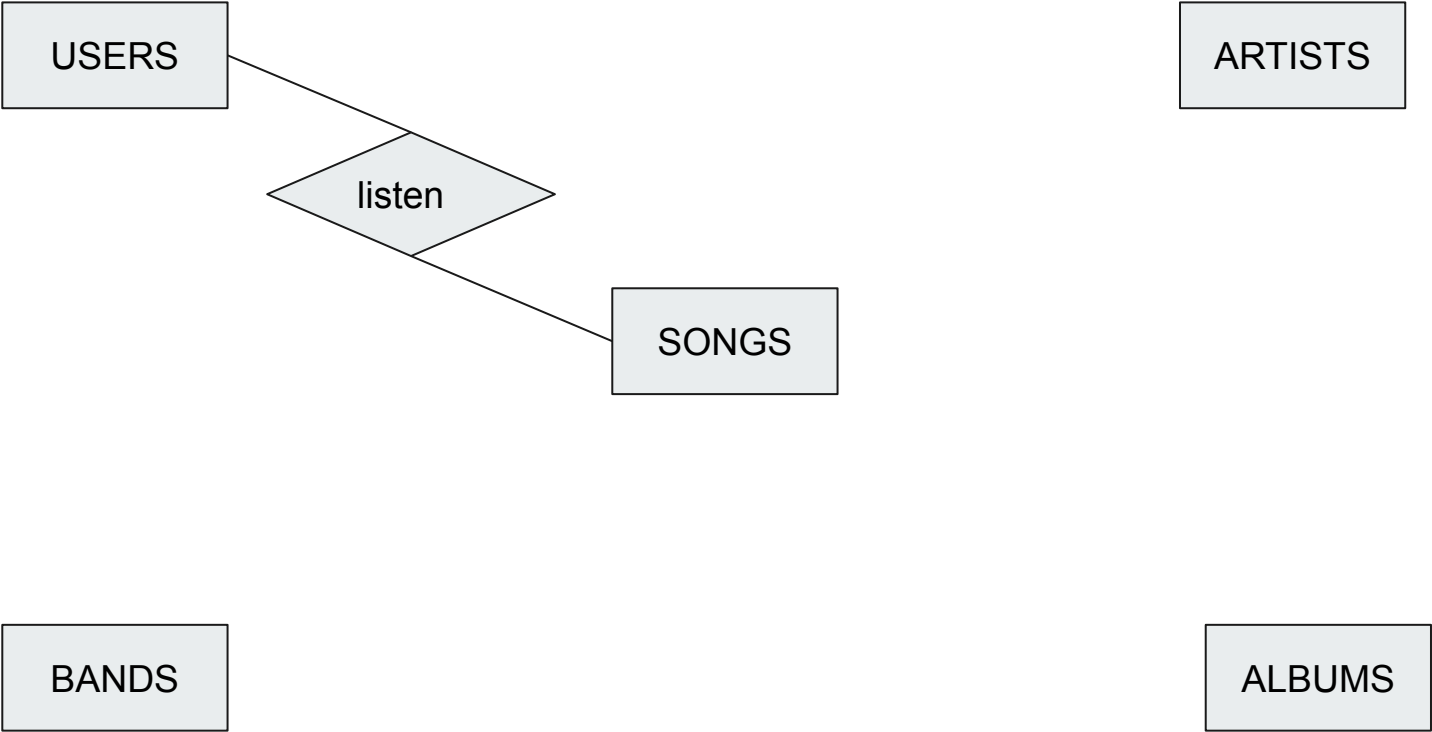
About Music Wrapped!

-   **Prototype** of database behind music applications like Amazon Music and Spotify.

-   **Captures** data about real world entities like users, songs, albums etc and the relationships amongst them via technical ER diagram.

-   **Allows to query** data to generate interesting results arising from the relationships amongst these entities like top played songs, most listened artists etc.
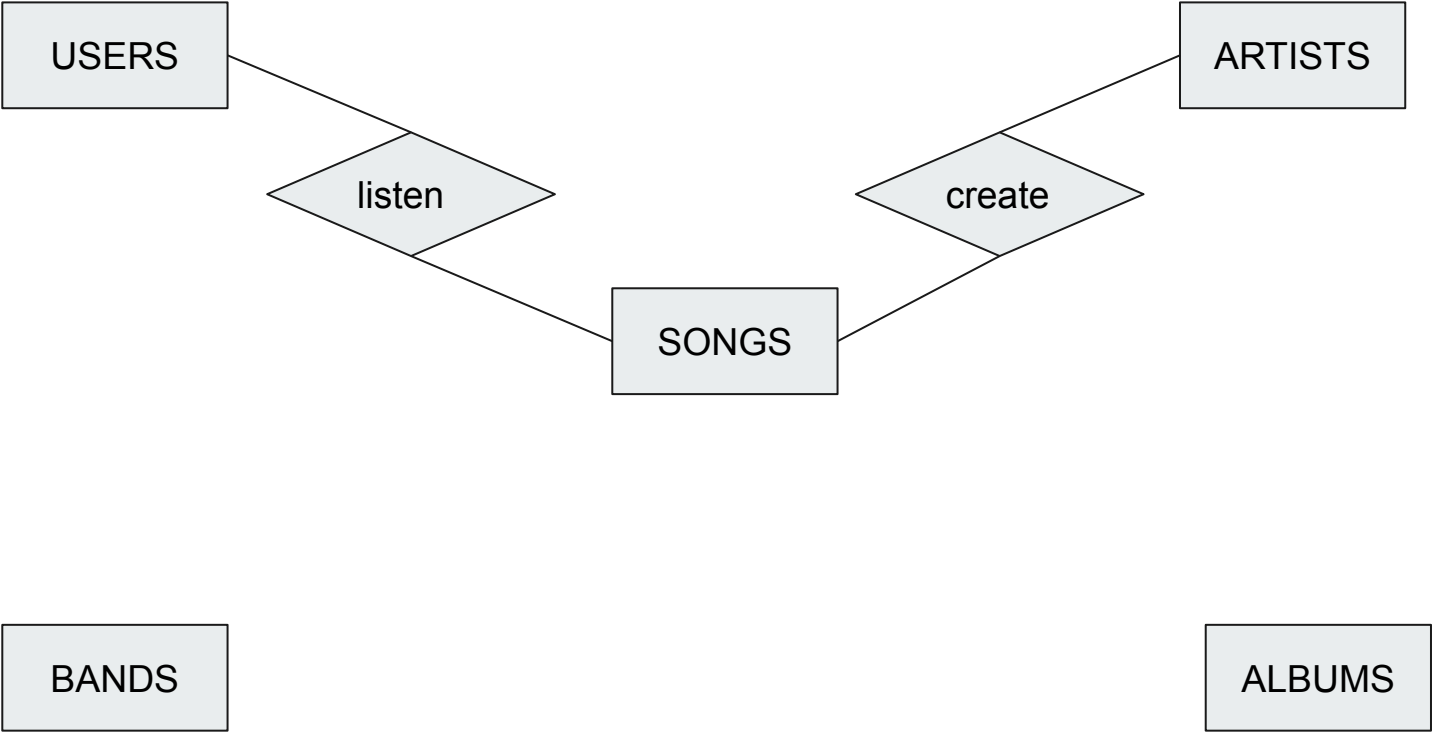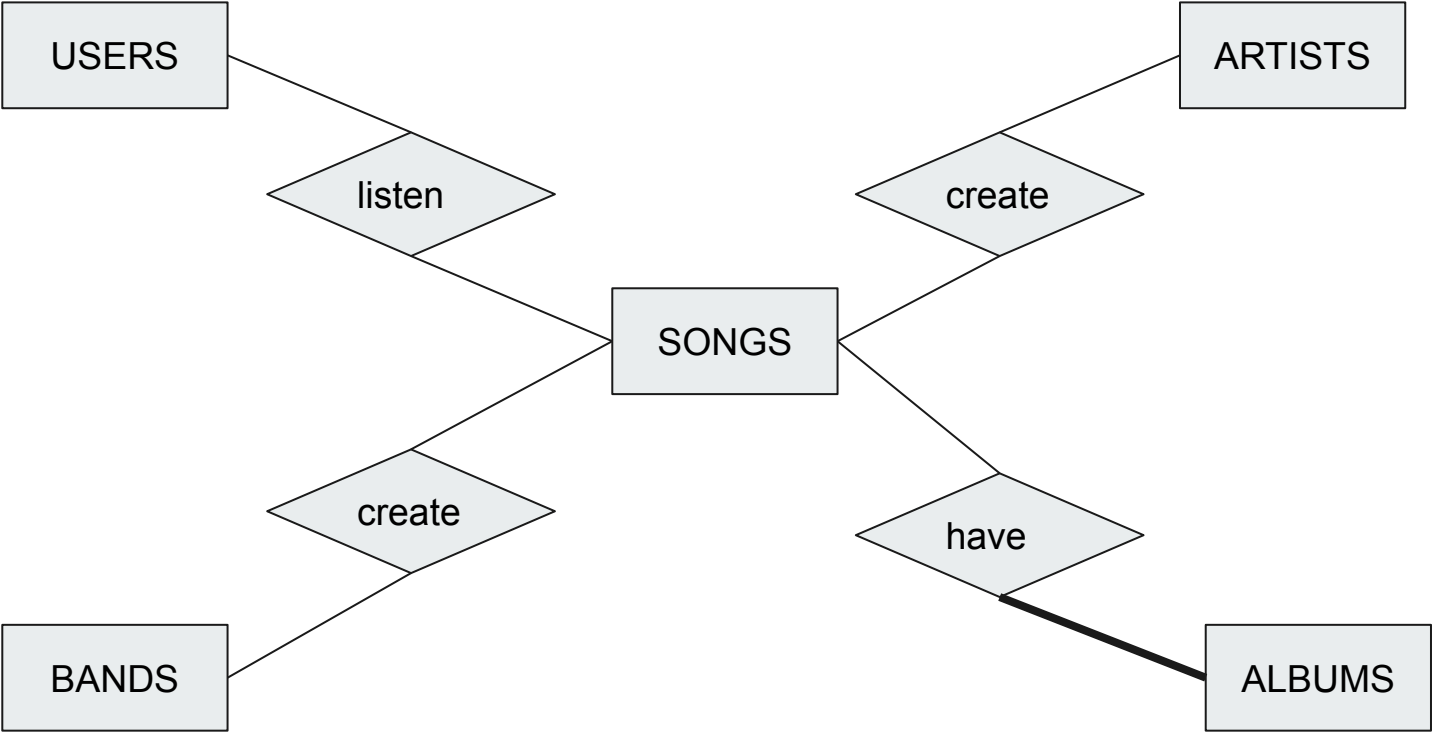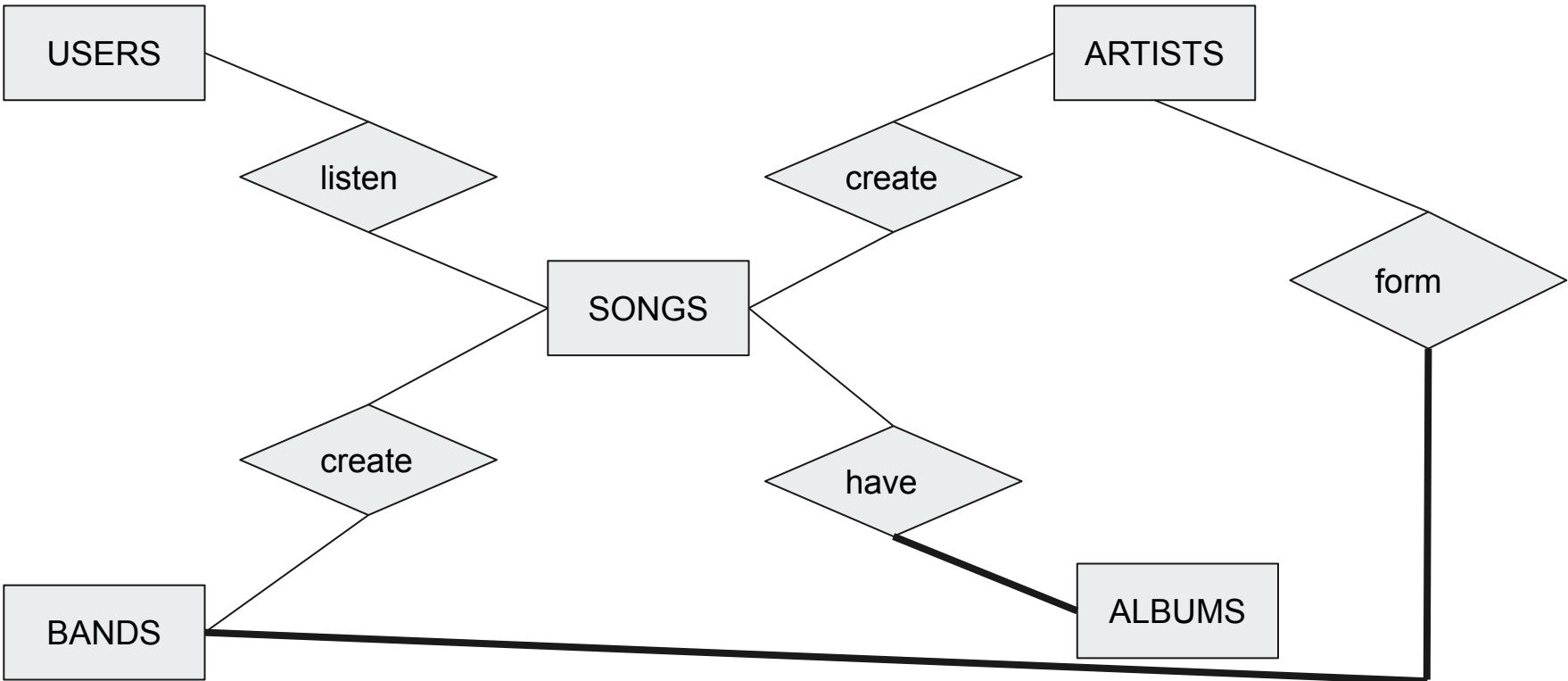
Designing ER Diagram

USERS

ARTISTS

SONGS

BANDS

ALBUMS

Designing ER Diagram

USERS

listen

SONGS

ARTISTS

BANDS

ALBUMS

USERS

ARTISTS

listen

create

SONGS

BANDS

ALBUMS
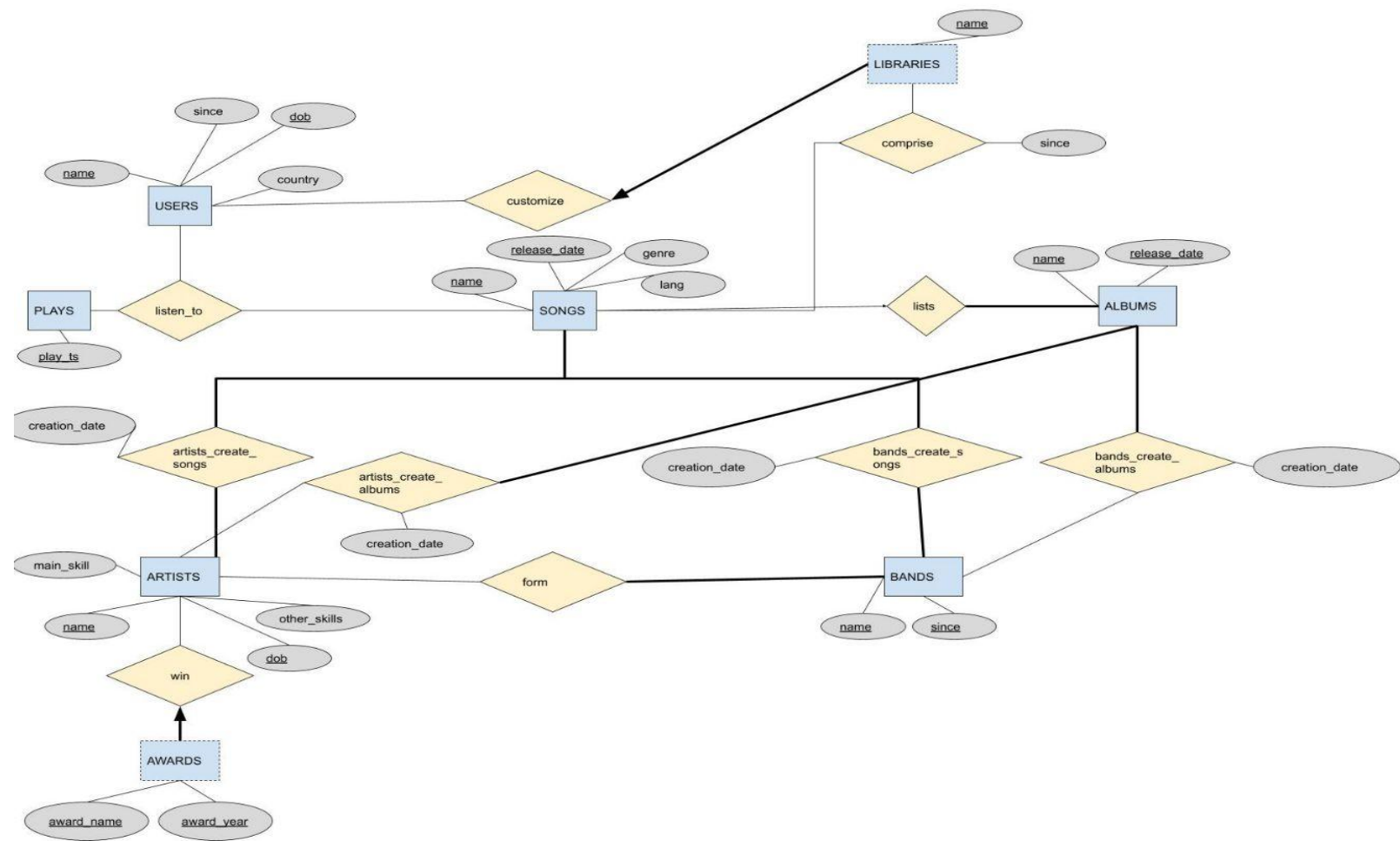
GUI DEMO

Users: Song Recommendations

Select a User to view their Spotlight!

('Jacob Bailey', 19960729) ▾

Spotlight | Jacob Bailey, 19960729

song recommendations ▾

Song Recommendations

	song	genre
0	10 Preludes, Op.23: No.5	Rock
1	2nd Law: Isolated System, The	Rock
2	Act My Age	Instrumental
3	Adams Song	Rock
4	After Midnight	EDM
5	A.I.	EDM
6	All I Have	Rock
7	All My Life	EDM
8	All My Tears	Instrumental
9	All of Me	Rock

```
SELECT name AS song, genre
FROM {DBIO.Songs}
WHERE genre IN (
    SELECT genre
    FROM {DBIO.Songs}, {DBIO.SongPlays}
    WHERE uname = '{user}'
    AND udob = {dob}
    AND {DBIO.Songs}.name = {DBIO.SongPlays}.sname
    GROUP BY genre
    ORDER BY COUNT(*) DESC
    LIMIT 3
)
AND name NOT IN(
    SELECT sname AS song
    FROM {DBIO.SongPlays}
    WHERE uname = '{user}'
    AND udob = {dob}
)
ORDER BY name
LIMIT 10
```

Find out which bands were the most hit in a year for a particular genre:

Genre

Instrumental ▾

year

2019 ▾

Most played 'Instrumental' songs in year 2019 belonged to the following bands:

	band	since	numhits
0	Black Flag	2005	17
1	The Beastie Boys	1991	12
2	Amadou and Mariam	2008	7
3	Fugazi	1997	7
4	The Andrews Sisters	1994	7
5	The Byrds	2000	5
6	The Clash	1991	4
7	Dion and the Belmonts	1992	3
8	Dire Straits	2015	3
9	The Coasters	2015	3
10	The Doors	1999	3

```
SELECT BCS.bname AS band, BCS.bsince AS since, COUNT(*) AS numHits
FROM {DBIO.Songs} S, {DBIO.SongPlays} SP, {DBIO.BandsCreateSongs} BCS
WHERE BCS.sname = S.name
AND BCS.srelease_date = S.release_date
AND SP.sname = S.name
AND SP.srelease_date = S.release_date
AND S.genre = '{genre}'
AND SP.play_ts > {year}0000000000
AND SP.play_ts < {year + 1}0000000000
GROUP BY BCS.bname, BCS.bsince
ORDER BY COUNT(*) DESC, BCS.bname, BCS.bsince;
```

Songs: Users who listen to a particular song also listen…

Select a Song to view its Spotlight!

('100 Years', 2004) ▼

Spotlight | 100 Years(2004)

users who listen to '100 Years(2004)' also listen… ▼

Users who listen to '100 Years(2004)' also listen…

	song	release
0	Evening Hate, The	2019
1	No Excuses	2019
2	Psycho	2018
3	Misery	2017
4	Parking Lot	2017
5	Whatever It Takes	2017
6	You Look Good	2017
7	Emperors New Clothes	2016
8	Still Breathing	2016
9	I Bet My Life	2015
10	Rat Race	2015

```
SELECT SP2.sname AS song, SP2.srelease_date AS release
FROM {DBIO.SongPlays} SP1, {DBIO.SongPlays} SP2
WHERE SP1.uname = SP2.uname
AND SP1.sname = '{song}'
AND SP1.srelease_date = {release}
AND SP2.sname != '{song}'
UNION
SELECT SP2.sname AS song, SP2.srelease_date AS release
FROM {DBIO.SongPlays} SP1, {DBIO.SongPlays} SP2
WHERE SP1.uname = SP2.uname
AND SP1.sname = '{song}'
AND SP1.srelease_date = {release}
AND SP2.srelease_date != {release}
ORDER BY release DESC, song
LIMIT 20
```

Artists with most song/album releases b/w:

Start Year

2010 ▾

End Year

2020 ▾

Award won?

yes ▾

Song Releases:

	artist	dob	numsongreleased
0	Ed Sheeran	19750505	2
1	Florida Georgia Line	19750505	1
2	Maroon 5	19750505	1

Album Releases:

	artist	dob	numalbumreleased
0	Post Malone	19750505	1
1	Simple Plan	19750505	1
2	The Rolling Stones	19750505	1
3	Thirty Seconds to Mars	19750505	1

```
SELECT ACS.aname AS artist, ACS.adob AS dob, COUNT(*) AS numSongReleased
FROM {DBIO.ArtistsCreateSongs} ACS
WHERE ACS.aname IN (
    SELECT aname
    FROM {DBIO.ArtistsWinAwards}
)
AND ACS.srelease_date >= {start_year}
AND ACS.srelease_date <= {end_year}
GROUP BY ACS.aname, ACS.adob
ORDER BY COUNT(*) DESC, ACS.aname, ACS.adob
LIMIT 10
```

Find out which albums (with songs of a particular genre) were added the most in user libraries since a given year

Genre

EDM

Year

2018

Following albums (with some 'EDM' songs) were added the most by users in their personal libraries since 2018:

	album	release	timesadded
0	California (Deluxe Edition)	1969	2
1	Abbey Road	1968	1
2	A Fever You Cant Sweat Out	1994	1
3	All The Right Reasons	1991	1
4	A Rush Of Blood To The Head	1992	1
5	Comatose Comes Alive	1978	1
6	Curtain Call	1971	1
7	Ember	1968	1
8	Fire and Water	1965	1
9	Gods Not Dead	1966	1
10	Never Land	1978	1

```sql
SELECT ALS.aname AS album, ALS.arelease_date AS release, COUNT(*) AS timesAdded
FROM {DBIO.Songs} S, {DBIO.AlbumsListSongs} ALS, {DBIO.UserLibraries} UL
WHERE UL.sname = ALS.sname
AND UL.srelease_date = ALS.srelease_date
AND UL.sname = S.name
AND UL.srelease_date = S.release_date
AND UL.since > {year}0000
AND S.genre = '{genre}'
GROUP BY ALS.aname, ALS.arelease_date
ORDER BY COUNT(*) DESC, ALS.aname, ALS.arelease_date DESC
```

Thank you!