1. Search by song name

   select name,theme,duration,tempo,year,Spotify_url from Track where name like "%Chic%";

2. Search by artist name – with top 3 popular songs

Before optimization -

select name,theme,duration,year,Spotify_url from Track t where id in (select track_id from (select at.track_id, count(*) from Artist_Track at join Favorites F on at.track_id = F.track_id where at.artist_id in (Select id from Artist where name='Chic') group by at.track_id order by count(*)) ft) limit 3 ;

After optimization –

select name,theme,duration,year,Spotify_url from Track t where id in (select track_id from(select at.track_id,count(*) from ((select * from Artist_Track where artist_id in (Select id from Artist where name='Chic')) at join (Select track_id from Favorites) f on at.track_id=f.track_id) group by at.track_id order by count(*)) ft) limit 3;

3. Search by album name

Before optimization –

select t.name, at.name from Album ab join Track t on ab.id = t.album_id join Artist_Track trat on t.id = trat.track_id join Artist at on trat.artist_id =at.id where ab.name = 'Definitely Maybe';

After optimization –

select t.name,at.name from ((select id from Album where name='Definitely Maybe') ab Join (select id,name,album_id from Track) t on t.album_id= ab.id join Artist_Track trat on trat.track_id=t.id Join Artist at on at.id= trat.artist_id) order by t.name;

4. Popular songs by decade

Before optimization –

select name, Spotify_url from Track T1 inner join (select id from (select t.id, count(*) from Track t join Favorites f on t.id = f.track_id where t.year between 1960 and 1969 group by t.id order by count(*) desc)p) as T on T1.id = T.id limit 3;

After optimization –

Select name, Spotify_url from Track where id in(select ft.id from (select t.id,count(*) from ((select id from Track where year between 1960 and 1969) t Join (select track_id from Favorites) f On t.id = f.track_id) Group by t.id Order by count(*)) ft) limit 3;

5. Songs by max collaborators

```
select name, Spotify_url from Track where id in (select AT1.track_id from Artist_Track AT1 where
AT1.artist_id = (select id1 from (select at1.artist_id as id1, at2.artist_id as id2, count(*) from
Artist_Track at1 join Artist_Track at2 on at1.track_id=at2.track_id where at1.artist_id != at2.artist_id
group by at1.artist_id, at2.artist_id order by count(*) desc) as T limit 1) and AT1.track_id in (select
AT2.track_id from Artist_Track AT2 where AT2.artist_id = (select id2 from (select at1.artist_id as id1,
at2.artist_id as id2, count(*) from Artist_Track at1 join Artist_Track at2 on at1.track_id=at2.track_id
where at1.artist_id != at2.artist_id group by at1.artist_id, at2.artist_id order by count(*) desc) as T
limit 1)));
```