

SQL queries:

1) How many albums recorded between date y1 and date y2:

```
SELECT * FROM album WHERE start_date >=? AND end_date <= ?;
```

2) How many different songs were recorded by musician X between date y1 and date y2:

```
SELECT * FROM track_musician LEFT JOIN musical_track ON musical_track.id =  
track_musician.track_id WHERE recording_date between ? AND ? AND person.name LIKE ?;
```

3) In How many different albums musician X participate between date y1 and date y2:

```
SELECT DISTINCT album.id, person.name FROM track_musician LEFT JOIN musical_track ON  
track_musician.track_id=musical_track.id LEFT JOIN person ON  
track_musician.musician_id=person.id LEFT JOIN tracks_album ON musical_track.id=  
tracks_album.track_id LEFT JOIN album ON album.id=tracks_album.album_id WHERE start_date >=  
AND end_date <= ? AND person.name LIKE ?;
```

4) What is the most common musical instrument throw the years:

```
SELECT instrument_type.description , instrument_id , count(instrument_id) AS ct FROM  
track_instruments LEFT JOIN instruments_stock ON track_instruments.instrument_id =  
instruments_stock.id LEFT JOIN instrument_type ON instruments_stock.instrumen_type_id =  
instrument_type.id GROUP BY instrument_id ORDER BY ct DESC LIMIT 1;
```

5) Musical instrument in album A:

```
SELECT tracks_album.album_id , album.album_name ,  
tracks_album.track_id,track_instruments.instrument_id,instrument_type.description  
,manf.manufacturer_name FROM track_instruments LEFT JOIN tracks_album ON  
track_instruments.track_id=tracks_album.track_id LEFT JOIN album ON album.id =  
tracks_album.album_id LEFT JOIN instruments_stock AS ins_stock ON  
ins_stock.id=track_instruments.instrument_id LEFT JOIN instrument_type ON  
ins_stock.instrumen_type_id = instrument_type.id LEFT JOIN manufacturers AS manf ON  
ins_stock.manufacturer_id=manf.id WHERE album.album_name LIKE ?;
```

6) The most productive producer between date y1 and date y2:

```
SELECT album_producer.producer_id ,person.name , count(album_producer.producer_id) as ct  
FROM album_producer LEFT JOIN album ON album_producer.album_id=album.id LEFT JOIN  
person ON person.id= album_producer.producer_id WHERE (start_date >=? AND end_date <= ?)  
GROUP BY album_producer.producer_id ORDER BY ct DESC LIMIT 1;
```

7) The most common manufacturer:

```
SELECT * FROM(SELECT instruments_stock.manufacturer_id,  
count(instruments_stock.manufacturer_id) as ct FROM track_instruments LEFT JOIN  
instruments_stock ON track_instruments.instrument_id = instruments_stock.id GROUP BY  
instruments_stock.manufacturer_id ORDER BY ct DESC LIMIT 1) AS manf LEFT JOIN  
manufacturers on manf.manufacturer_id = manufacturers.id;
```

8) How many musicians have recorded over the years:

```
SELECT count( DISTINCT (track_musician.musician_id)) AS ct FROM track_musician;
```

9) The musician who collaborated with the greatest number of other musicians:

```
SELECT musician.musician_name, COUNT(*) AS count FROM song_with INNER JOIN musician
ON song_with.musician_id = musician.musician_id GROUP BY musician.musician_name ORDER
BY count DESC LIMIT 1;
```

10) The most popular song genre:

```
SELECT genre , count(genre) AS ct FROM musical_track GROUP BY musical_track.genre ORDER
BY ct DESC LIMIT 1;
```

**11) Who is the recording technician who recorded the largest number of songs
between date y1 and date y2:**

```
SELECT technician_id, person.name, count(musical_track.technician_id) AS ct FROM musical_track
LEFT JOIN `person` ON musical_track.technician_id = person.Id WHERE (recording_date >= ? AND
recording_date <= ? ) GROUP BY musical_track.technician_id ORDER BY ct DESC LIMIT 1;
```

12) What is the first album recorded in the studio:

```
SELECT MIN(end_date) FROM album );
```

13) List all songs in 2 or more albums:

```
SELECT track_id, track_name , count(track_id) AS ct FROM tracks_album RIGHT JOIN
musical_track ON tracks_album.track_id = musical_track.id GROUP BY tracks_album.track_id
HAVING count(track_id) >1;
```

14) List of technicians who have shared the recording of an entire album:

```
SELECT tb1.album_id, tb1.technician_id, person.name FROM (SELECT
tb.album_id, tb.technician_id, count(tb.technician_id) AS ct FROM (SELECT track.id ,
track.track_name , tracks_album.album_id , track.technician_id , count(technician_id) FROM
musical_track AS track LEFT JOIN tracks_album ON track.id = tracks_album.track_id GROUP BY
track.technician_id , tracks_album.album_id ORDER BY tracks_album.album_id ASC) AS tb GROUP
BY (tb.album_id) AS tb1 LEFT JOIN person ON person.id=tb1.technician_id WHERE tb1.ct =1;
```

15) Who is the most versatile musician:

```
SELECT tb.name, count(tb.musician_id) AS ct1 FROM (SELECT musician_id, genre
, person.name, count(*) AS ct FROM track_musician LEFT JOIN musical_track ON
track_musician.track_id = musical_track.id LEFT JOIN person ON person.id = musician_id GROUP
BY musician_id, genre) AS tb GROUP BY tb.name ORDER BY ct1 DESC LIMIT 1;
```