**Solutions**

**--------------------------------------------**

## Setup : Create database and use it.

* CREATE DATABASE record\_company;
* USE record\_company;
* CREATE TABLE bands (

id INT NOT NULL AUTO\_INCREMENT,

name VARCHAR(255) NOT NULL,

PRIMARY KEY (id)

);

* CREATE TABLE albums (

id INT NOT NULL AUTO\_INCREMENT,

name VARCHAR(255) NOT NULL,

release\_year INT,

band\_id INT NOT NULL,

PRIMARY KEY (id),

FOREIGN KEY (band\_id) REFERENCES bands(id)

);

## Exercises

### 1. Create a Songs Table

This table should be called `songs` and have four properties with these exact names.

1. `id`: An integer that is the primary key, and auto increments.

2. `name`: A string that cannot be null.

3. `length`: A float that represents the length of the song in minutes that cannot be null.

4. `album\_id`: An integer that is a foreign key referencing the albums table that cannot be null.

Solution :

* create table songs ( id int primary key auto\_increment,

name varchar(255) not null,

length float not null,

album\_id int not null,

foreign key (album\_id) references albums(id));

### 2. Select only the Names of all the Bands, change the name of the column the data returns to `Band Name`

Solution :

* select name as 'Band name' from bands;

### 3. Select the Oldest Album

Solution :

* select \* from albums where release\_year is not null order by release\_year limit 1;

### 4. Get all Bands that have Albums.

Solution :

* Select distinct(b.name) from bands b inner join albums a on b.id = a.band\_id;

### 5. Get all Bands that have No Albums.

* Select \* from bands b where b.id not in(select distinct(b.id) from bands inner join albums a on b.id = a.band\_id);

### 6. Get the Longest Album

* create view duration as SELECT sum(length) as duration FROM albums A INNER JOIN songs S ON A.id = S.album\_id group by a.id;
* select max(duration) from duration

### 7. Update the Release Year of the Album with no Release Year

Set the release year to 1986.

Solution :

* update albums set release\_year = '1986' where release\_year is null;

or

* select id from albums where release\_year is null;
* update albums set release\_year = '1986' where id =4;

### 8. Select the longest Song off each Album

* select a.name as "Band name", a.release\_year as year , s.name, s.length as duration from albums a inner join songs s on a.id = s.album\_id where s.length in

(select max(length) from songs group by album\_id);

### 9. Get the number of Songs for each Band

* select b.name as 'Band Name', count(s.id) as 'No. of songs' from bands b inner join albums a inner join songs s on b.id=a.band\_id and a.id = s.album\_id group by b.id;