MYSQL TEST

You have to complete this test in 2 hours..   Total Marks: 60

First create a database named mysql_test

Now you have to create 3 tables bands, albums and songs

1. In bands table the column should be a column   (2)

   band_id   **name & band_id**

   name

2. In albums table there should be a column   (2)

   album_id   **All**

   name

   release_year

   band_id   in the bands table

3. In songs table there should be a column   (2)

   song_id

   name   **All**

   length type should be in decimal

   album_id in the albums table

Select only the Names of all the Bands, Change the name of the column the data returns to Band Name

Band Name
Seventh Wonder
Metallica
The Ocean
Within Temptation
Death
Van Canto
Dream Theater

select name as Band Name from bands;

(5)

Select the oldest album make sure to only return one data from the query

id	name	release_year	band_id
5	...And Justice for All	1988	2

select * from album where release year = 1988;

(3)

Get all the bands that have albums

Return the band name as "Band Name"

SELECT name as 'Band Name' FROM band b JOIN album a USING (band_id) WHERE a.name is NOT NULL;

Band Name
Seventh Wonder
Metallica
The Ocean
Within Temptation
Death
Van Canto

(6)

Get all the bands that have no albums

Return the band name as "band name"

SELECT name as 'Band Name' FROM band b JOIN album a USING (band_id) WHERE a.name is NULL;

Band Name
Dream Theater

(5)

Get the longest album

Name	Release Year	Duration
Death Magnetic	2008	74.76666593551636

SELECT name, release_year, SUM(duration) as duration from album ORDER BY duration DESC;

(3)

Update the release of the album that has no release year set the release year to 2022   (2)

UPDATE album SET release_year = 2022 WHERE release_year IS NULL;

Insert a record for one of the band and one of their albums   (5)
INSERT INTO band (band_id, name) VALUES (7, 'Expressions');
INSERT INTO album (id, name, release_year) VALUES (7,'inspiration', 2022);
Get the average length of all songs
SELECT AVG(duration) from album;
Return the average length as Average Song Duration.

SELECT AVG(duration) as Average Song Duration from album;

Average Song Duration
5.352472513259112

(2)

Select the longest song for each album

Return the album name as Album, the album release year as Release Year, and the longest song length as Duration

```
SELECT name as Album, release_year as Release Year from album
where album_id in (SELECT album_id from album group by duration having count(*) > 1
)
order by duration as Duration;
```

Album	Release Year	Duration
Tiara	2018	9.5
The Great Escape	2010	30.2333
Mercy Falls	2008	9.48333
Master of Puppets	1986	8.58333
...And Justice for All	1988	9.81667
Death Magnetic	2008	9.96667
Heliocentric	2010	7.48333
Pelagial	2013	9.28333
Anthropocentric	2010	9.4
Resist	2018	5.85
The Unforgiving	2011	5.66667
Enter	1997	7.25
The Sound of Perseverance	1998	8.43333
Individual Thought Patterns	1993	4.81667
Human	1991	4.65
A Storm to Come	2006	5.21667
Break the Silence	2011	6.15
Tribe of Force	2010	8.38333

(6)

Get the number of songs for each band

Return the band name as Band, the number of songs as Number of Songs.

Band	Number of Songs
Seventh Wonder	35
Metallica	27
The Ocean	31
Within Temptation	30
Death	27
Van Canto	32

(6)

Create a stored procedure for get clients by state (3)

Create a stored procedure for update payments (4)

Create a stored procedure for get unpaid invoices for clients (4)

Question: Create a stored procedure for get clients by state
```
CREATE PROCEDURE `get_clients_by_state`
(
        state char(2)
)
BEGIN
        if state is null then
                set state = select * from clients;
        end if;
    select * from clients c
    where c.state = state;
```

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Question: Create a stored procedure for update payments
```
CREATE PROCEDURE `update_payments`
(
        invoice_id int,
    payment_total decimal(9,2),
    payment_date date
)
BEGIN
        update invoices i
    set i.payment_total = payment_total,
    i.payment_date = payment_date
    where i.invoice_id = invoice_id;
```