

# Homework 3: Data & Application

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1. Which track has the longest length?

```
SELECT Name AS "Longest length track" FROM Track WHERE Milliseconds = (SELECT MAX(Milliseconds) FROM Track);
```

2. How many audio tracks were listened to by people of Indian Nationality?

```
SELECT COUNT(DISTINCT l.TrackID) AS "No. of tracks listened BY Indians" FROM listeningto AS l, listener AS d WHERE l.listenerid=d.listenerid AND d.nationality='Indian';
```

3. Which albums take up the maximum space?

```
SELECT X.Name AS "Album of max space" FROM (SELECT AlbumID, SUM(Bytes) AS Album_length FROM Track GROUP BY AlbumID ORDER BY Album_length DESC LIMIT 1) AS T, Album AS X WHERE X.AlbumID = T.AlbumID;
```

4. Which nationality listens to the music the least?

```

SELECT MinCountry AS "Country listening to music least" FROM (SELECT M.Country AS MinCountry,
SUM(M.TotalTime) AS CountryTime FROM (SELECT p.Nationality AS Country, T.TotalTime FROM Listener AS p,
(SELECT listenerID, SUM(Milliseconds) AS TotalTime FROM ListeningTo GROUP BY ListenerID ORDER BY
TotalTime DESC) AS T WHERE p.listenerID=T.listenerID) AS M GROUP BY M.Country ORDER BY CountryTime ASC
LIMIT 1) AS X;

```

5. Which genre is listened to by most people among Americans?

```

SELECT G.Name AS "Most listened Genre BY Americans" FROM Genre AS G, ListeningTo AS L, Track AS T,
Listener AS D WHERE G.GenreID = T.GenreID AND L.ListenerID = D.ListenerID AND T.TrackID = L.TrackID AND
D.Nationality = 'American' GROUP BY G.Name ORDER BY COUNT(D.ListenerID) DESC LIMIT 1;

```

6. Which artist did not make any albums at all?

```

SELECT Name AS "Artists with no albums" FROM Artist WHERE ArtistID NOT IN (SELECT ArtistID FROM Track);

```

7. Which artist did not record any track of 'Pop' genre type?

```

SELECT Name AS "Artists with no tracks of 'Pop' genre" FROM Artist WHERE ArtistID NOT IN (SELECT
ArtistID FROM Track WHERE GenreID IN (SELECT GenreID FROM Genre WHERE name = 'Pop'));

```

—————Snapshot of the output can be found in the next page—————

```
(base) aaryansharma@Aaryans-MacBook-Air ~ % mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 24
Server version: 8.0.30 Homebrew
```

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```
mysql> USE HW3;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A
```

```
Database changed
mysql> SELECT Name AS "Longest length track" FROM Track WHERE Milliseconds = (SELECT MAX(Milliseconds) FROM Track);
+-----+
| Longest length track |
+-----+
| Under Pressure      |
+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT COUNT(DISTINCT l.TrackID) AS "No. of tracks listened by Indians" FROM listeningto AS l,listener AS d WHERE l.listen
rid=d.listenerid AND d.nationality='Indian';
+-----+
| No. of tracks listened by Indians |
+-----+
| 12 |
+-----+
1 row in set (0.01 sec)
```

```
mysql> SELECT X.Name AS "Album of max space" FROM (SELECT AlbumID, SUM(Bytes) AS Album_length FROM Track GROUP BY AlbumID ORDER BY
Album_length DESC LIMIT 1) AS T, Album AS X WHERE X.AlbumID = T.AlbumID;
+-----+
| Album of max space |
+-----+
| Under Pressure    |
+-----+
1 row in set (0.01 sec)
```

```
mysql> SELECT MinCountry AS "Country listening to music least" FROM (SELECT M.Country AS MinCountry, SUM(M.TotalTime) AS CountryTi
me FROM (SELECT p.Nationality AS Country, T.TotalTime FROM Listener AS p, (SELECT listenerID, SUM(Milliseconds) AS TotalTime FROM
ListeningTo GROUP BY ListenerID ORDER BY TotalTime DESC) AS T WHERE p.listenerID=T.listenerID) AS M GROUP BY M.Country ORDER BY Co
untryTime ASC LIMIT 1) AS X;
+-----+
| Country listening to music least |
+-----+
| Indian |
+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT G.Name AS "Most listened Genre by Americans" FROM Genre as G, ListeningTo as L, Track as T, Listener as D WHERE G.Ge
nreID = T.GenreID AND L.ListenerID = D.ListenerID AND T.TrackID = L.TrackID AND D.Nationality = 'American' GROUP BY G.Name ORDER B
Y count(D.ListenerID) DESC LIMIT 1;
+-----+
| Most listened Genre by Americans |
+-----+
| Rap |
+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT Name AS "Artists with no albums" FROM Artist WHERE ArtistID NOT IN (SELECT ArtistID FROM Track);
+-----+
| Artists with no albums |
+-----+
| Vennu Mallesh |
+-----+
1 row in set (0.01 sec)
```

```
mysql> SELECT Name AS "Artists with no tracks of 'Pop' genre" FROM Artist WHERE ArtistID NOT IN ( SELECT ArtistID FROM Track WHERE
GenreID IN (SELECT GenreID FROM Genre WHERE name = 'pop'));
+-----+
| Artists with no tracks of 'Pop' genre |
+-----+
| Logic |
| Vennu Mallesh |
+-----+
2 rows in set (0.00 sec)
```

```
mysql> quit
Bye
(base) aaryansharma@Aaryans-MacBook-Air ~ %
```