

Instructions:

1. This question paper contains 1 page (2 sides of paper). Please verify.
2. Write your name, roll number, department above in **block letters neatly with ink**.
3. Write your final answers neatly **with a blue/black pen**. Pencil marks may get smudged.
4. Don't overwrite/scratch answers especially in MCQ – ambiguous cases may get 0 marks.
5. **Hardcoding attempts will not get any credit.**
6. **Be extremely precise in your answers and be careful not to make spelling or punctuation mistakes.** We may type your answers as SQLite queries to actual DB and give marks based on how correct the retrieved results are.



The `gaana` database designed by our DB engineers Deebo and Deeba has 3 tables `artist`, `album` and `song`. `song.length` is always a strictly positive integer. `artist.aadhar_no` is the artist's Aadhar number and is unique for every artist. `album.id` is a unique number given to every album by the music industry. An artist will never release two albums with the same name, but albums by two different artists may have the same name. An album will never contain two songs of the same name, but two different albums may contain songs with same name.

artist			
aadhar_no	first_name	last_name	
2011-21	Teebo	Totter	
1002-12	Melbo		
1911-11	Beeba	Bopper	
1011-11	Kopi		
9022-92	Ceebo	Carnum	

album			
id	album_title	artist_id	release_year
101	B-Smash	1911-11	2024
102	M-Swing	1002-12	2022
103	B-Smash	1011-11	2024
104	C-Drow	9022-92	2022
105	A-Par	1011-11	2023
106	Zing-T	2011-21	2023
107	T-Zing	2011-21	2023

song					
name	album_id	length	name	album_id	length
Buk Buk	101	22	Cun Cun	104	101
Bok Bok	101	33	PoorPoor	105	11
Bak Bak	101	100	PaarPaar	105	2
MunMun	102	25	Tyt Tyt	106	56
Min Min	102	1	Tot Tot	106	333
MonMon	102	45	Tet Tet	106	222
Kob Kob	103	22	Tyt Tyt	107	99
Kub Kub	103	88	Tut Tut	107	2
Can Can	104	33	Tot Tot	107	42
Con Con	104	55	Tat Tat	107	111

Q1. Write an SQL query to help Deebo count the number of songs of length ≥ 100 . (1 mark)

Q2. Write a query to retrieve the Aadhar numbers of all artists without a last name. (2 marks)

Q3. (Foreign Relations) Deeba suspects certain columns might be foreign keys. Given are some column names. If a column should be a foreign key, write the table and column it should reference (i.e., its parent). If it shouldn't be a foreign key, write "None" (don't just leave blank). **(4 marks)**

Child Table.Column	Parent Table	Parent Column
song.album_id		
album.artist_id		
album.album_title		
album.id		

Q4. (The Key to Success) Deebo wishes to design a primary key for the table `album`. Which of the following combinations would work? Write Y/N for Yes/No. **(4 marks)**

Proposed Primary Key	Y/N	Proposed Primary Key	Y/N
<code>id</code>		<code>album_title, release_year</code>	
<code>artist_id, release_year</code>		<code>album_title, artist_id</code>	

Q5. Write a query to retrieve `name` and `album_id` of songs from albums released in 2023. If two songs released in 2023 have the same name, then that name should appear twice in the output. Sort the output in increasing order of song length (song length is not to be retrieved). **(4 marks)**

Q6. Write a query to get `aadhar_no` and `first_name` of artists who have at least one song of length ≥ 100 . Artist details should not repeat if they have released multiple such songs.**(5 marks)**