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DBMS PROJECT

MUSIC APP DATABASE

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CSE 2ND YEAR

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PROBLEM STATEMENT

In this project, we aim to design a database management system to store the information of music app. This will manage the information of the music app.

This database store the information of the user account that user account contain the userid ,username ,and email and password for the privacy of the data for each user has own its account.

And this database also contain the information of the singer that release the album and store the song of the album in a song relation.

And also we are provide to user to create the playlist so that he can play the song that he likes

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TABLES

1.USERACCOUNT

TABLE USERACCOUNT		
Column	Null?	Type
USERID	NOT NULL	NUMBER
EMAIL	NOT NULL	VARCHAR2(100)
PASSWORD	NOT NULL	VARCHAR2(20)
USERNAME	NOT NULL	VARCHAR2(20)

2.SINGER

TABLE SINGER		
Column	Null?	Type
SINGERID	NOT NULL	NUMBER
SINGERNAME	NOT NULL	VARCHAR2(100)

3.ALBUM

TABLE ALBUM		
Column	Null?	Type
ALBUMID	NOT NULL	NUMBER
ALBUMNAME	-	VARCHAR2(20)

4.RELEASE

TABLE RELEASE		
Column	Null?	Type
ALBUMID	NOT NULL	NUMBER
SINGERID	NOT NULL	NUMBER

5.SONG

6.PLAYLIST

TABLE SONG		
Column	Null?	Type
SONGID	NOT NULL	NUMBER
SINGERID	-	NUMBER
ALBUMID	-	NUMBER
SONGNAME	-	VARCHAR2(100)

TABLE PLAYLIST		
Column	Null?	Type
USERID	-	NUMBER
PLAYLISTID	NOT NULL	NUMBER
PLAYLISTNAME	-	VARCHAR2(100)

TABLE CONTAINS		
Column	Null?	Type
PLALISTID	-	NUMBER
SONGID	-	NUMBER

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1.USERACCOUNT

USERID->EMAIL , PASSWOR , USERNAME

ON TAKING CLOSURE OF THE (USERID)+→R

PRIMARY KEY – USERID

PRIME ATTRIBUT- USERID

NONPRIME ATTRIBUTE- EMAIL,PASSWORD,USERNAME

THERE IS NO **PARTIAL DEPENDENCY** THEREFORE IT IS IN 2NF

THERE IS NO **TRANSITIVE DEPENDENCY** THEREFORE IT IS IN 3NF

ALL DEPENDENCIES ARE FROM CANDIDATE KEY THEREFORE IT IS IN BCNF FORM

2. SINGER

SINGERID->SINGERNAME

ON TAKING CLOSURE OF THE (SINGERID)+→R

PRIMARY KEY -SINGERID

PRIME ATTRIBUTE-SINGERID

NONPRIME ATTRIBUTE -SINGERNAME

THERE IS NO **PARTIAL DEPENDENCY** THEREFORE IT IS IN 2NF

THERE IS NO **TRANSITIVE DEPENDENCY** THEREFORE IT IS IN 3NF

ALL DEPENDENCIES ARE FROM CANDIDATE KEY THEREFORE IT IS IN BCNF

3.ALBUM

ALBUMID->ALBUMNAME

ON TAKING CLOSURE OF THE (ALBUMID)+→R

PRIMARY KEY-ALBUMID

PRIME ATTRIBUTE-ALBUMID

NONPRIME ATTRIBUTE-ALBUMNAME

THERE IS NO **PARTIAL DEPENDENCY** THEREFORE IT IS IN 2NF

THERE IS NO **TRANSITIVE DEPENDENCY** THEREFORE IT IS IN 3NF

ALL DEPENDENCIES ARE FROM CANDIDATE KEY THEREFORE IT IS IN BCNF

[Type here]

4.RELEASE

$(\text{ALBUMID}, \text{SINGERID}) \rightarrow \text{ALBUMID}, \text{SINGERID}$

ON TAKING CLOSURE OF THE $(\text{ALBUMID}, \text{SINGERID})^+ \rightarrow R$

PRIMARY KEY- $(\text{ALBUMID}, \text{SINGERID})$

PRIME ATTRIBUT- $\text{ALBUMID}, \text{SINGERID}$

THERE IS NO PARTIAL DEPENDENCY THEREFORE IT IS IN 2NF

THERE IS NO TRANSITIVE DEPENDENCY THEREFORE IT IS IN 3NF

ALL DEPENDENCIES ARE FROM CANDIDATE KEY THEREFORE IT IS IN BCNF

5.SONG

$\text{SONGID} \rightarrow \text{SINGERID}, \text{ALBUMID}, \text{ALBUMID}, \text{SONGNAME}$

ON TAKING CLOSURE OF THE $(\text{SONGID})^+ \rightarrow R$

PRIMARY KEY – (SONGID)

PRIME ATTRIBUTE- (SONGID)

NONPRIME ATTRIBUTE- $\text{SINGERID}, \text{ALBUMID}, \text{ALBUMID}, \text{SONGNAME}$

THERE IS NO **PARTIAL DEPENDENCY THEREFORE** IT IS IN 2NF

THERE IS NO **TRANSITIVE DEPENDENCY** THEREFORE IT IS IN 3NF

ALL DEPENDENCIES ARE FROM CANDIDATE KEY THEREFORE IT IS IN BCNF

6.PLAYLIST

$\text{PLAYLISTID} \rightarrow \text{USERID}, \text{PLAYLISTNAME},$

ON TAKING CLOSURE OF THE $\text{PLAYLISTID}^+ \rightarrow R$

PRIMARY KEY- PLAYLISTID

PRIME ATTRIBUTE- PLAYLISTID

NONPRIME ATTRIBUTE- $\text{USERID}, \text{PLAYLISTNAME}$

THERE IS NO **PARTIAL DEPENDENCY** THEREFORE IT IS IN 2NF

THERE IS NO **TRANSITIVE DEPENDENCY** THEREFORE IT IS IN 3NF

ALL DEPENDENCIES ARE FROM CANDIDATE KEY THEREFORE IT IS IN BCNF

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7.CONTAINSONG PLAYLIST

Primary key- (playlistid,songid)

Prime attribute- playlistid,songid

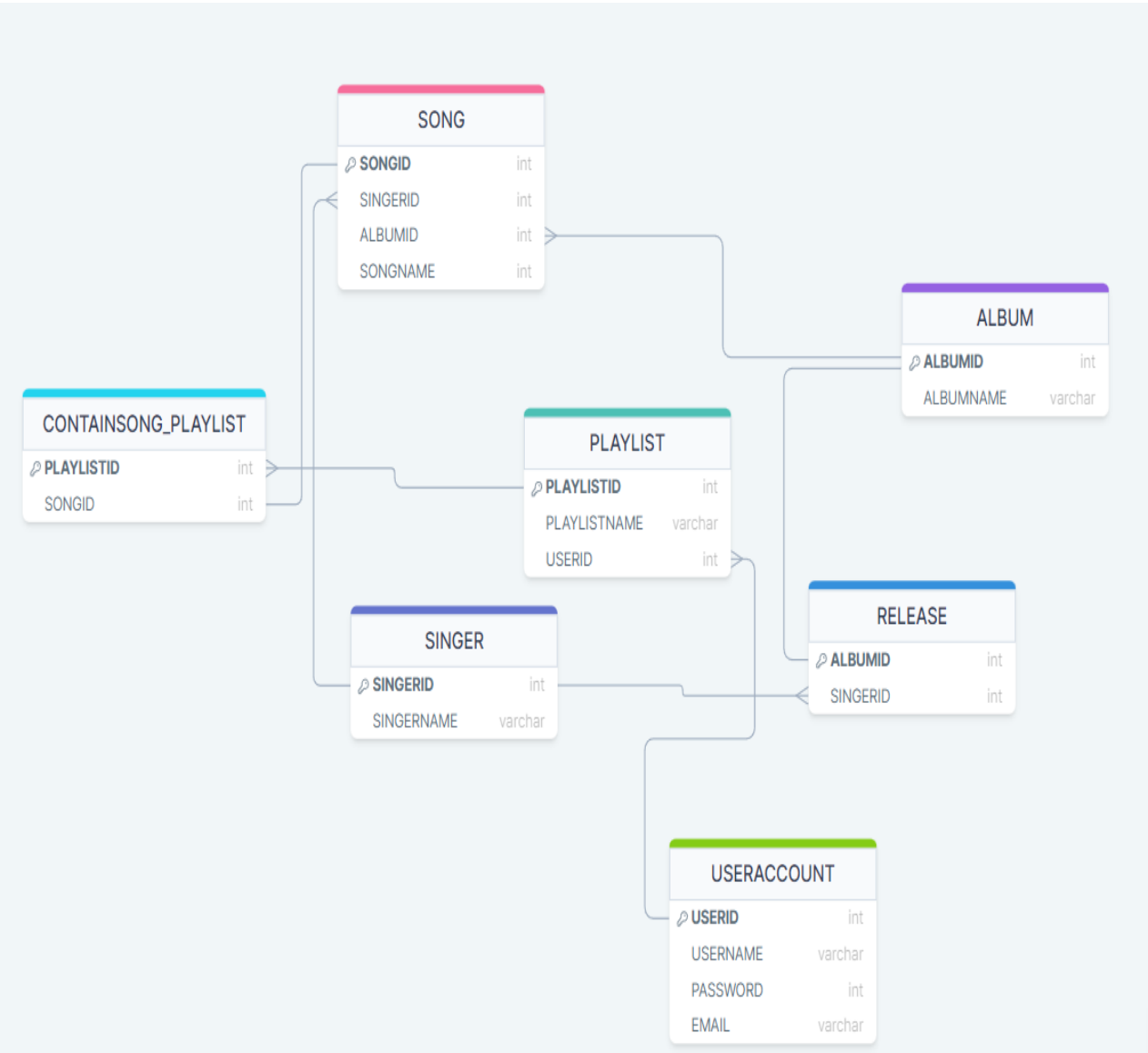
There is no partial dependency therefore it is in 2nf

There is no transitive dependency therefore it is in 3nf

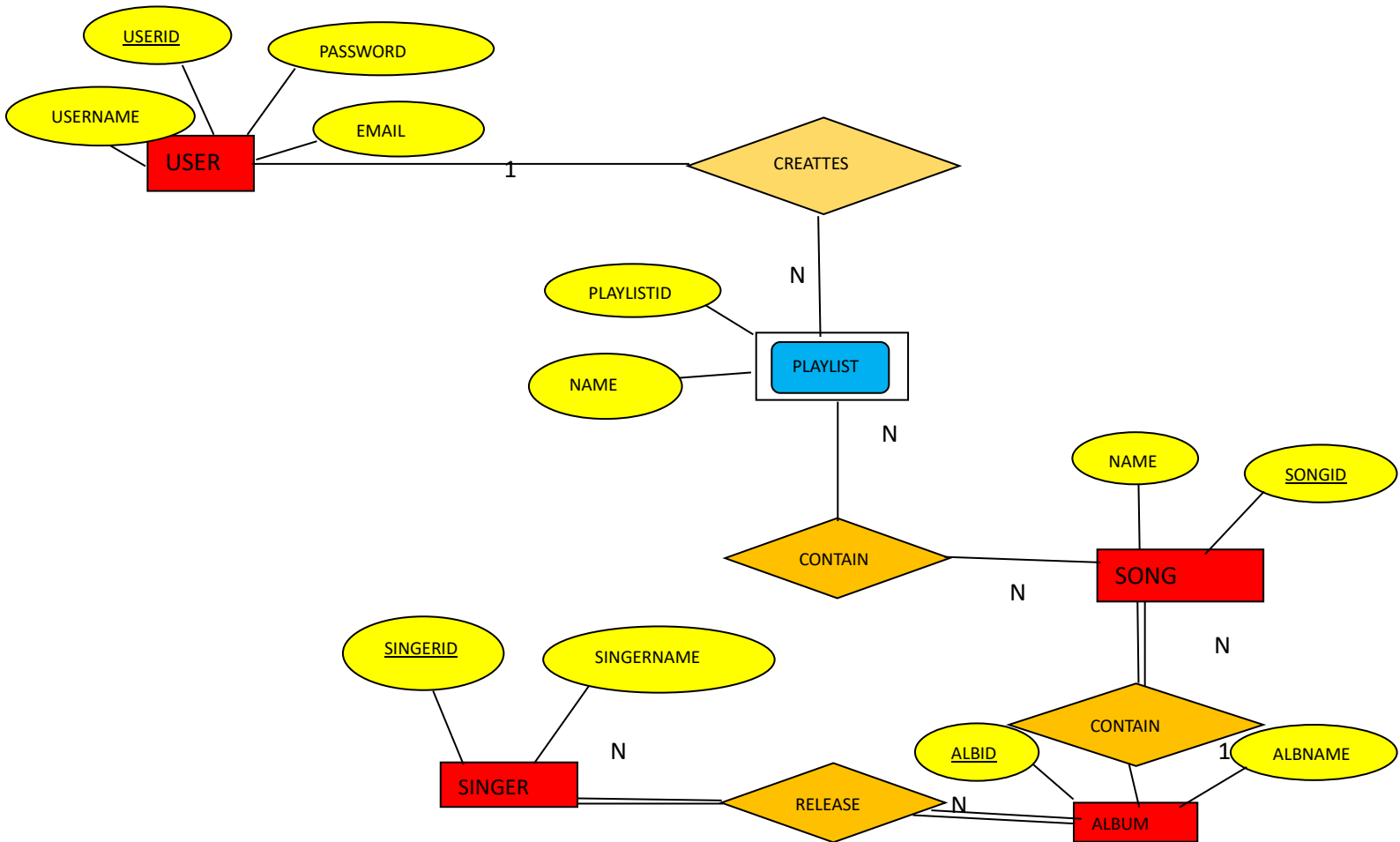
All dependencies are from candidate key therefore it is in bcnf

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RELATIONAL SCHEMA



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```
CREATE TABLE userAccount(  
  UserID NUMBER,  
  Email VARCHAR2(100) UNIQUE,  
  Password VARCHAR2(20) NOT NULL,  
  USERNAME VARCHAR(20) NOT NULL,  
  PRIMARY KEY (UserID)  
);  
INSERT INTO userAccount VALUES (  
  876543210,'HACK@gmail.com', 'password123','HACK'  
);  
INSERT INTO userAccount VALUES (  
  483957943, 'PAT@gmail.com', 'password123','PAT'  
);  
select * from useraccount;  
CREATE TABLE SINGER(  
  SINGERID NUMBER PRIMARY KEY,  
  SINGERNAME VARCHAR2(100)  
);  
INSERT INTO SINGER VALUES(  
  115687669,'STEVE'  
);  
INSERT INTO SINGER VALUES(  
  123753454,'DAVID'  
);  
INSERT INTO SINGER VALUES(
```

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```
115400888,'SHYAM'  
);  
INSERT INTO SINGER VALUES(  
878787878,'RAM'  
);select *  
from singer;
```

```
CREATE TABLE ALBUM(  
ALBUMID NUMBER PRIMARY KEY,  
ALBUMNAME VARCHAR(20)  
);
```

```
INSERT INTO ALBUM VALUES(  
220876548,'ENGLISH'  
);
```

```
INSERT INTO album VALUES(  
220876544,'HINDI'  
);
```

```
INSERT INTO album VALUES(  
220400999,'PUNJABI'  
);
```

```
INSERT INTO album VALUES(  
758493120,'HINDI1'  
);
```

```
select *  
from album;
```

```
CREATE TABLE release(  
ALBUMID NUMBER REFERENCES album(ALBUMID) ON DELETE CASCADE,  
SINGERID NUMBER REFERENCES SINGER(SINGERID) ON DELETE CASCADE,  
PRIMARY KEY(ALBUMID, SINGERID)  
);
```

```
INSERT INTO release VALUES (
```

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220876548,115687669

);

INSERT INTO release VALUES (

220876544,123753454

);INSERT INTO release VALUES (

220400999, 115400888);

INSERT INTO release VALUES (

758493120,878787878

);

select *

from release;

CREATE TABLE song(

SONGID NUMBER,

SINGERID NUMBER REFERENCES SINGER(SINGERID) ON DELETE CASCADE,

AlbumID NUMBER REFERENCES album(ALBUMID) ON DELETE CASCADE,

SONGNAME VARCHAR2(100),

PRIMARY KEY(SongID)

);

INSERT INTO song VALUES (

132984789,115687669, 220876548,'KILL ME'

);

INSERT INTO song VALUES (

132984790,115687669,220876548,'Beat It'

);

INSERT INTO song VALUES (

132984791, 115687669, 220876548,'BELIEVER'

);

INSERT INTO song VALUES (

132984777, 123753454, 220876544, 'RAM SIYA RAM'

);

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INSERT INTO song VALUES (

132984779,123753454,220876544,'KRISHNA'

);

INSERT INTO song VALUES (

132984780,123753454,220876544,'SHAYAD'

);

INSERT INTO song VALUES (

132984781,123753454,220876544,'JOKER'

);

INSERT INTO song VALUES (

132984782,123753454,220876544,'EXCUSES'

);

INSERT INTO song VALUES (

132984783,123753454,220876544,'MAGAN'

);

INSERT INTO song VALUES (

132984784,123753454,220876544,'KESARIYA'

);

INSERT INTO song VALUES (132984785,123753454,220876544,'NAMO'

);

INSERT INTO song VALUES (132984786,123753454,220876544,'RAMA RAMA'

);

INSERT INTO song VALUES (

132984787,123753454,220876544,'SHIVA'

);

INSERT INTO song VALUES (

132984788,123753454,220876544,'SHAMBHU'

);

INSERT INTO song VALUES(132655900,115400888,220400999,'CHEQUES'

);

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INSERT INTO song VALUES (132655901,115400888,220400999,'KING'

);

INSERT INTO song VALUES (132655902,115400888,220400999,'SO HIGH'

);

INSERT INTO song VALUES (132655903,115400888,220400999,'SPAIN'

);

INSERT INTO song VALUES (132655904,115400888,220400999,'ICE'

);

INSERT INTO song VALUES (132655905,115400888,220400999,'DRIPPY'

);

INSERT INTO song VALUES (132655906,115400888,220400999,'STILL ROLLIN'

);

INSERT INTO song VALUES (137783456,878787878,758493120,'JUDGE'

);

INSERT INTO song VALUES (

137783457,878787878,758493120,'CASE'

);

INSERT INTO song VALUES (137783458,878787878,758493120,'CEASEFIRE'

);

INSERT INTO song VALUES (137783459,878787878,758493120,'WE ROLLIN'

);

INSERT INTO song VALUES (137783460,878787878,758493120,'BALLER'

);

INSERT INTO song VALUES (137783461,878787878,758493120,'DAKU'

);

select *

from song;

CREATE TABLE playlist(

USERID REFERENCES userAccount(USERID) ON DELETE CASCADE,

PLAYLISTID NUMBER,

[Type here]

```
PLAYLISTNAME VARCHAR2(100),  
PRIMARY KEY(PLAYLISTID)  
);  
INSERT INTO playlist VALUES (876543210,897324198,'Mike'  
);  
INSERT INTO playlist VALUES (483957943,897324200,'Ed');
```

```
select *  
from playlist;
```

```
CREATE TABLE contains(  
PLAYLISTID REFERENCES playlist(PLAYLISTID) ON DELETE CASCADE,  
SONGID REFERENCES song(SONGID) ON DELETE CASCADE  
);
```

```
INSERT INTO containssong_playlist VALUES (  
897324198,132984789  
);
```

```
INSERT INTO containssong_playlist VALUES (  
897324200,132984777  
);
```

```
select *  
from containssong_playlist;
```

SQL QUERIES-

Question: Retrieve the email address of the user with UserID 483957943.

EMAIL

PAT@gmail.com

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Question: Find the name of the singer who sang the song 'RAM SIYA RAM'

SELECT S.SINGERNAME

FROM SINGER S

JOIN SONG SG ON S.SINGERID = SG.SINGERID

WHERE SG.SONGNAME = 'RAM SIYA RAM';

SINGERNAME
DAVID

Question: Count the number of songs in the album 'ENGLISH'.

SELECT COUNT(*) AS SongCount

FROM SONG

WHERE AlbumID = (SELECT ALBUMID FROM ALBUM WHERE ALBUMNAME = 'ENGLISH');

SONGCOUNT
3

Question: Determine the PLAYLISTID of the playlist named 'Mike'.

SELECT PLAYLISTID

FROM PLAYLIST

WHERE PLAYLISTNAME = 'Mike';

PLAYLISTID
897324198

Question: List the songs included in the playlist named 'Ed'.

SELECT S.SONGNAME

FROM SONG S

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JOIN CONTAINS CP ON S.SONGID = CP.SONGID

JOIN PLAYLIST P ON CP.PLAYLISTID = P.PLAYLISTID

WHERE P.PLAYLISTNAME = 'Ed';

SONGNAME
RAM SIYA RAM