Computing

Lesson 3: Insert, Update, Delete

Databases and SQL

Ben Garside

Task 1 - Data types

Fields in a database (as with variables in a programming language) have data types associated with them. MySQL and SQLite provide different data types, examples of which are listed below.

MySQL

INT	An integer
FLOAT	A floating point number
VARCHAR(x)	A string of variable length (the x can be set by the user to set a maximum size)
DATE	A date value in YYYY-MM-DD format
TIME	A time value in hh:mm:ss format

SQLite

INTEGER	An integer
RAL	A floating point number
TEXT	A string of variable length

Task 1 - Data types task

A doctor's surgery stores data on patients. Some of the fields from `tblPatients` are listed below. Allocate an appropriate data type for each of the fields.

Note: If you use VARCHAR(x), you should suggest a maximum field size. For example, VARCHAR(50) would allow a maximum of 50 characters to be entered.

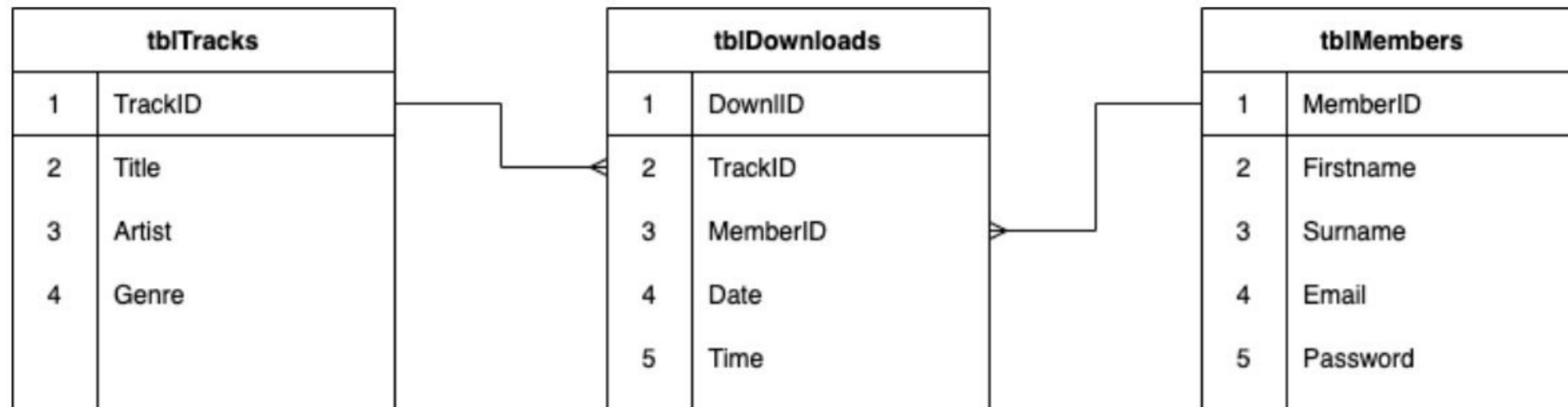| Field title	MYSQL data type	SQLite data type
PatientID		
Firstname		
Surname		
Date_of_birth		
Height(cm)		

Task 2 –Inserting, updating, deleting

As your music downloads business grows, the database is in need of administration.

For this activity you will need:

● DB Browser for SQLite
● A copy of the dbMusic.db file which you used last lesson.

tblTracks	
1	TrackID
2	Title
3	Artist
4	Genre

tblDownloads	
1	DownlID
2	TrackID
3	MemberID
4	Date
5	Time

tblMembers	
1	MemberID
2	Firstname
3	Surname
4	Email
5	Password

Task 2 part 1 – Inserting

```
1  INSERT INTO tblMembers (Firstname,Surname, Email, Password)
2  VALUES("Nicole", "Battle","Nbat@mail.com","Nr5@Wd");
```

Now we need to check that this worked by running a SELECT query. Try running the following to see if Nicole now exists in our database.

```
1  SELECT *
2  FROM tblMembers
3  WHERE Surname = "Battle";
```

Task 2 part 1 – Updating

```
1 UPDATE tblMembers
2 SET password = "H&cv4wpvd$"
3 WHERE MemberID = 3;
```

Run a **SELECT** query to show that this query has updated the password successfully. rite down your query script below:

```
1
2
3
```

Task 2 part 1 – Deleting

```
1  DELETE FROM tblDownloads
2  WHERE MemberID = 41;
```

Again, run a **SELECT** query to double check that member 41 no longer exists in the database. Write down your query script below:

```
1
2
3
```

Task 2 part 2 – Task 1

The artist Angry Pete has notified us that after a career break he has returned a different man and would now like to be known as 'Happy Pete'. He has requested that the data in our database is adjusted accordingly.

Write a script that will perform this action and document your script below:

```
1
2
3
```

Task 2 part 2 – Task 2

Recent download data has just been passed to you. Please insert the relevant information into the database.

MemberID	FirstName	Surname	TrackID	Title	Date	Time
53	Ben	Garside	11	Lost in it all	2020-07-01	14:31
50	Rebecca	Franks	13	Cheese Pops	2020-07-02	18:04
52	Allen	Heard	49	Keep it real	2020-07-06	00:03

Hint: Consider which table you need to insert the data into. Does all of the data provided above need to be entered? Write a script that will perform this action and document your script below:

```
1
2
3
4
```

Task 2 part 2 – Task 3

There was a glitch in our system between 1st November 2019 and 19th November 2019. The system incorrectly recorded the song downloaded. Update the system so that all songs downloaded between these dates are set to 'Stomp' by 'The Kings'.

To solve this problem, start by answering the questions on the following slides

Task 2 part 2 – Task 3

Which table will you have to update?	
What is the track ID for 'Stomp' by 'The Kings'?	
What type of query do you need to use (update, delete, insert)?	
Which comparison operator do you need? **Hint:** **(oaknat.uk/comp-sqlite-between)**	
Write down the correct date format for 1st November 2019.	

Task 2 part 2 – Task 3

Write down the script that solved this problem below:

```
1
2
3
```

Parson's puzzle

The code below has been jumbled up. The purpose of the query is to insert two new records into `tblDownloads`.

Place the code into the correct order. Note that there is a distractor in the code below, which means that one of the lines should not be used.

```
1  (10,19,"2020-09-02","17:46");
2  INSERT INTO tblDownloads (TrackID, MemberID, Date, Time)
3  VALUES (10,19,"2020-09-02","17:46");
4  VALUES (2,5,"2020-09-01","14:32"),
```

```
1
2
3
4
```