Computing

Lesson 1: Database Essentials

Databases and SQL

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Task 1 - How is data stored

For this activity you will be searching for information about UK registered vehicles using the DVLA website.

Step 1

Visit the DVLA website (oaknat.uk/comp-ks4-DVLA) and choose Start Now.

Task 1 - How is data stored

Step 2

Enter the following licence plate number, choose yes and click continue. **D504 YNV**

Step 3

Fill in the details below using the information displayed about the vehicle:

Vehicle make:	
Year of manufacture:	
Is the vehicle taxed?	

Task 1 - How is data stored

Step 4

Go back to the start page and enter the following licence plate number: **B420 MCM**

Step 5

Fill in the details below using the information displayed about the vehicle:

Vehicle make:	
Year of manufacture:	
Is the vehicle taxed?	

Task 1 - How is data stored

Step 6

Answer the following questions:

How do you think the vehicle data has been stored?

How many vehicles do you think the DVLA might have on their records?

Task 2 - Inefficient flat file database

Look at the database below and highlight any potential issues that might arise when storing the data in this way.

TrackID	Title	Artist	Genre	DloadID	Date	Time	MemberID	Firstname	Surname
1	Float away	The Springs	Pop	1	4.6.10	18:36	1	Sara	Bibi
2	In denial	Rocketts	Rock	2	5.6.11	19:20	1	Sara	Bibi
1	Float away	The Springs	Pop	3	9.6.12	09:30	2	Danny	Judd
2	In denial	Rocketts	Rock	4	1.7.14	08:28	2	Danny	Judd
1	Float away	The spings	Pop	5	9.1.11	03:45	3	Cara	Lichfield

Task 3 - Explore the database

For this activity you will need:

- **oaknat.uk/comp-sqlite-browser**
- A copy of the dbMusic.db file which is available from **oaknat.uk/comp-db-Music**

DB Browser for SQLite is free to download but please ask your parents/carers before downloading and installing this software.

Task 3 part 1 - Investigate the tables

Look at the data structure of the `tblDownloads` table. State whether the fields listed below are primary or foreign keys.

Field	Primary Key / Foreign Key
DownlID	
TrackID	
MemberID	

Task 3 part 2 - Explore the database

Choose to modify the tblTracks table. Paste the SQL code for the table.	
Choose to modify the tblDownloads table. What is the data type used for data and time?	

Task 3 part 3 - Explore the members table

Go to the browse data tab and select the `tblMembers` table from the drop down list. Answer the questions below.

How many **records** does the **members table** have?	
What is the **name** of the **39th member**?	
What is the **email address** for **Peony Winifred**?	
How many **members** have a **surname** that begins with the letter B?	
How many **fields** does the members table have?	

Task 3 part 4 - Explore the downloads table

Go to the browse data tab and select the `tblDownloads` table from the drop down list. Answer the questions below.

Go to the `tblDownloads` table. How many **records** does the downloads table have?	
How many **fields** does the downloads table have?	
What structure has been used to store the data in the **date** field?	
What structure has been used to store the data in the **time** field?	
How many **downloads** of **track 13** have there been? **Tip**: Use the filter at the top of the table data	
What is the **title** of **track 13**? **Tip**: you will need to navigate to the tracks table	