

ICT - Year 8.1.2 Tue 26- 01-2021- Lesson Databases

Relational Databases and Foreign Keys

Revision from Last Lesson

Match the questions to the correct answer

What is a primary key?	Text – Letters, numbers, punctuation Number – Numbers only Date/Time – Dates or times!
What data type is a primary key and why?	A unique number that helps to tell each record apart
What are the other data types?	AutoNumber so that the computer automatically generates the number and will not allow the same number twice.

<u>Field Title</u>
Fan ID
First Name
Surname
DOB
Gender
Address 1
City
Postcode
Telephone
Email

So we can use your name when we get in touch.

So we can contact you about appropriate events for your age and gender.

So we can send letters about events near you.

So we can send text and email messages.

Learning Objective

- To understand the purpose of a relational database.
- To understand what a foreign key is and why it is important in relational databases.




Scenario



- 'Blue Screen of Death' is a new band that is rapidly gaining popularity.
- You have organised a way of contacting their fans using your fan table.
- They now need a way of finding out which member of their fan club went to which gig venue.
- So they can invite the fans back to the same venue, the next time they play there.

Class Discussion

- You have created table of FANs for “Blue Screen of Death” last lesson.
 - What type of database is this?

- They now need a way of finding out which member of their fan club went to which gig venue.
- So they can invite the fans back to the same venue, the next time they play there.

What information do we now need in our database?

Activity: 1

Fan
Table

Gig
Venues
Table

- Design your Gig Venue Table in Excel and give it suitable data types similar to last lesson.
- What fields have you included in your gig venues table?
 - Gig ID
 - Gig Venue Name
 - Number and Street
 - City
 - Postcode
 - Telephone Number
 - E-mail address
 - Website
 - Maximum No. Of people

•Gig ID	TC1000	TC2000	HRA3000	HRA3001	HRA3002	HRA3003	HRA3004	HRA3005	HRA3006	HRA3007
•Gig Venue Name	The crown	The club	HRA							
•Number and Street	Park st									
•City	Luton									
•Postcode	LU13EP									
•Telephone Number	8798675423									
•E-mail address	tmassiah@houghtonregisacademy.org									
•Website	HRA.org									
•Maximum No. Of people	500									

Example

Tables to Set Up



- How can we link which fans go to which gigs?



Relationships

Fan Table

<u>Field Title</u>	<u>Data Type</u>
Fan ID	AutoNumber
First Name	Text
Surname	Text
DOB	Date/Time
Gender	Text
Address 1	Text
City	Text
Postcode	Text
Telephone	Text
Email	Text

Gigs Venue Table

<u>Field Title</u>	<u>Data Type</u>
Gig ID	AutoNumber
Gig Venue Name	Text
No. & Street	Text
City	Text
Postcode	Text
Telephone	Text
Email	Text
Website	Text
Max No. Of People	Number

Fans at Gigs Table

<u>Field Title</u>	<u>Data Type</u>
Fans at Gig ID	AutoNumber
Fan ID	Number
Gig ID	Number
Date of Gig	Date / Time



Relationships

Fan Table

<u>Field Title</u>	<u>Data Type</u>
Fan ID	AutoNumber
First Name	Text
Surname	Text
DOB	Date/Time
Gender	Text
Address 1	Text
City	Text
Postcode	Text
Telephone	Text
Email	Text

The primary keys that we put into another table are known as **Foreign Keys**

They identify unique records in another table

Fans at Gigs Table

<u>Field Title</u>	<u>Data Type</u>
Fans at Gig ID	AutoNumber
Fan ID	Number
Gig ID	Number
Date of Gig	Date / Time

Gigs Venue Table

<u>Field Title</u>	<u>Data Type</u>
Gig ID	AutoNumber
Gig Venue Name	Text
No. & Street	Text
City	Text
Postcode	Text
Telephone	Text
Email	Text
Website	Text
Max No. Of People	Number

Extension: Revision Document

- In spreadsheet create a “Fan At the Gigs Table”

<u>Field Title</u>	<u>Data Type</u>
Fans at Gig ID	AutoNumber
Fan ID	Number
Gig ID	Number
Date of Gig	Date / Time

- Go back to the document you created last lesson that was either in:
 - PowerPoint
- Add the following to it:
 - What is a Foreign Key and how are they useful in a relational database?
 - What are the advantages of a relational database over a flat file database? (think back to previous lessons)

Learning Journals

- Fill in your learning journals detailing what you've done so far.
- **What have you learnt today?**
- **Is there anything that you want to find out over the next few lessons?**

Review

- Which ones are primary keys and which ones are foreign keys?



= primary key



= foreign key

Review

- Come up with a definition for a Foreign Key.
 - It's a primary key that is from another table
 - It uniquely identifies a record from another table
- Can you think of any other examples of a database that will have Foreign Keys in it?
 - What tables will it have?
 - What will the primary / foreign keys be?



Homework

- Complete the Extension task.