

**ICT - Year 9.2 Mon 26-01-  
2021-**

**Relational Databases  
and Foreign Keys**

Relational Databases and Foreign Keys

# Revision from Last Lesson

Match the questions to the correct answer

What is a primary key?	<b>Text – Letters, numbers, punctuation</b> <b>Number – Numbers only</b> <b>Date/Time – Dates or times!</b>
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.



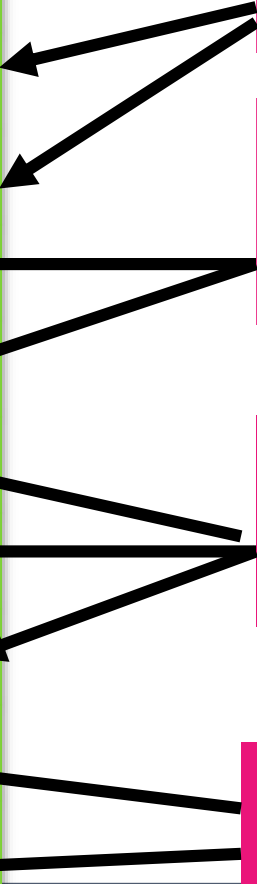
<u>Field Title</u>
Fan ID
First Name
Surname
DOB
Gender
Address 1
City
Postcode
Telephone
Email

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

## Success Criteria

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

Level 4 - To understand what a foreign key is.

Level 5 - Explain the advantages of relational databases over a flat file database.

Explain why a foreign key is important.

**Challenge Task:** Level 6 - To create a relational database based on a flat file database.



# 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.
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# Activity: Gig Database

- We have our table of FANs for “Blue Screen of Death” that you set up 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?**



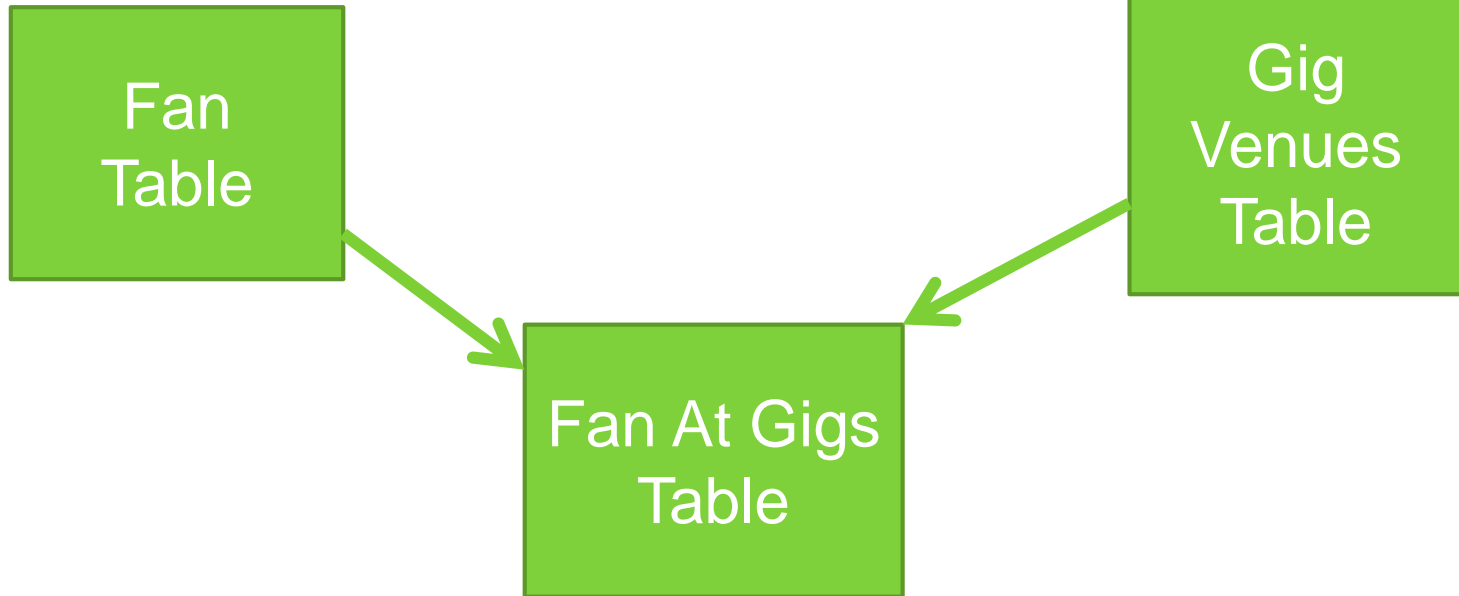
# Tables to Set Up

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
-

# Tables to Set Up



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





# Relationships

## Fan Table

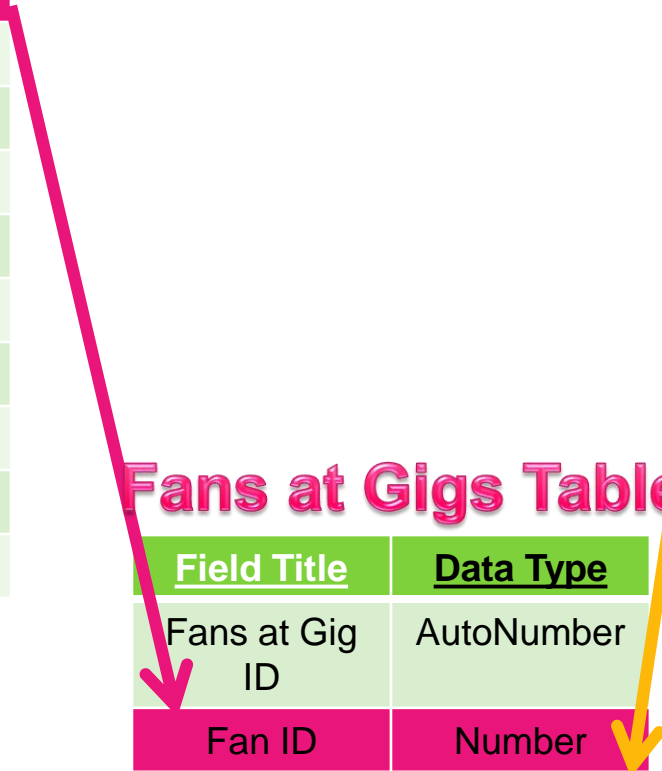
<u>Field Title</u>	<u>Data Type</u>
Fan ID	AutoNumber
First Name	Text
Surname	Text
DOB	Date/Time
Gender	Text
Address 1	Text
City	Text
Postcode	Text
Telephone	Text
Email	Text

## 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

# Relationships

- Create your Fans at Gigs Table
  - Create the relationships between them.
-

# Extension: Revision Document

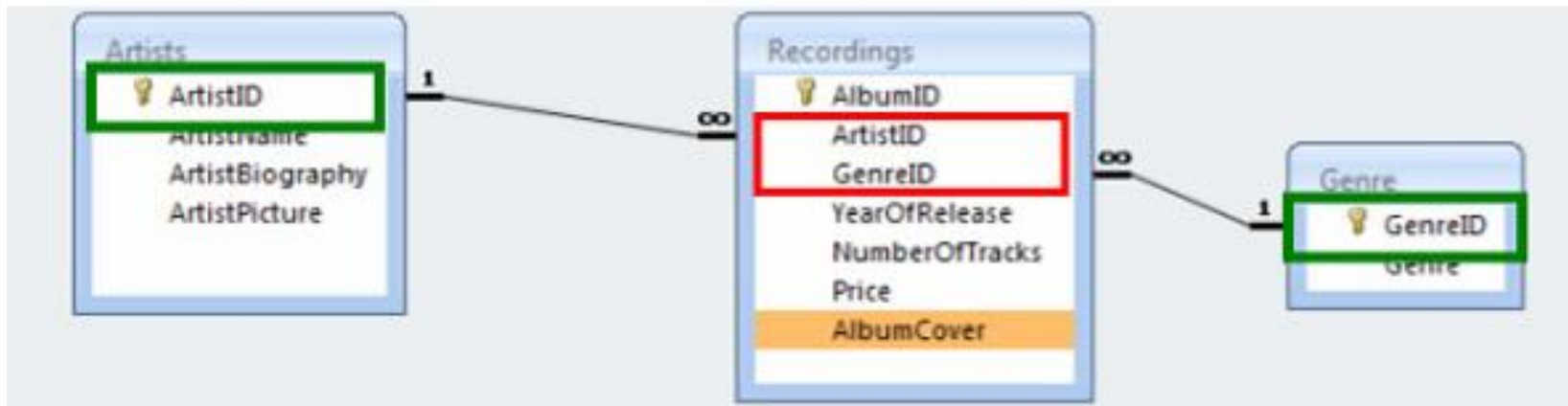
- Go back to the document you created last lesson that was either in:
    - PowerPoint
  - Add the following to it:
    - What is a Foreign Key and how are they useful in a relational database?
    - What are the advantages of a relational database over a flat file database? (think back to previous lessons)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