Joins Sytax

**Example Data:**

Here are 2 sample tables. Each has one row that has no match on the author ID. The book table has a row with no match in the author table (The Clan of the Cave Bear) and the author table has a row with no match in the book table (John Grisham).

Book Table:

|  |  |  |  |
| --- | --- | --- | --- |
| **ISBN** | **Title** | **Year** | **Author ID** |
| 12589 | Circle of Friends | 1991 | 134 |
| 45862 | 61 Hours | 2014 | 248 |
| 14582 | Light a Penny Candle | 1994 | 134 |
| 28652 | Bad Luck and Trouble | 2017 | 248 |
| 38945 | Where are the Children | 1982 | 943 |
| 75826 | Cross | 2001 | 546 |
| 58383 | The Clan of the Cave Bear | 1982 | 137 |

Author Table:

|  |  |  |
| --- | --- | --- |
| **ID** | **Name** | **Address** |
| 134 | Maeve Binchy | 1 Fiona Lane Dublin, Ireland |
| 248 | Lee Child | 459 Broadway. NY, NY |
| 943 | Mary Higgins Clark | 6 Main St. Finster, MI |
| 546 | James Patterson | 237 Biscayne Ave, Miami FL |
| 478 | John Grisham | 578 Illinois Ave. Los Angeles, CA |

Inner Join

You can use both JOIN or INNER JOIN to create an inner join. The result will only includes rows where the condition is met. In this case 6 books.

First, select the fields you want. Since there is no repeat of field names in the two tables, you can just use the field names.

SELECT ISBN, Title, Name, Address

Second, type **From** and then the left table name. **JOIN** and then the right table name.

From Book JOIN Author

ON Book.AuthorID = Author.ID;

Third, make your matching condition. You do need the table names here.

SELECT Book.ISBN, Book.title, Author.name, Author.address

First, select the fields you want. You can put the table names if you think it makes it clearer.

Second, type From and then the left table name. JOIN and then the right table name.

From Book JOIN Author

ON Book.AuthorID = Author.ID;

Condition

You can give the tables an alias in this statement if you think that makes it clearer. One generally only types SQL statements once, so the time saved may not be worth the clarity lost.

SELECT B.ISBN, B.Title, A.Name, A.Address

Use the alias for the tables when you select the fields.

From Book B JOIN Author A

Create the alias the first time you mention the table itself without a field name.

ON B.AuthorID = A.ID;

Use the alias again for the condition.

For all three of these JOIN statements – the results are the same – all the rows of the table (6) that have the matching condition.

|  |  |  |  |
| --- | --- | --- | --- |
| **ISBN** | **Title** | **Author** | **Author Address** |
| 12589 | Circle of Friends | Maeve Binchy | 1 Fiona Lane Dublin, Ireland |
| 45862 | 61 Hours | Lee Child | 234 Park Ave. NY, NY |
| 14582 | Light a Penny Candle | Maeve Binchy | 1 Fiona Lane Dublin, Ireland |
| 28652 | Bad Luck and Trouble | Lee Child | 459 Broadway. NY, NY |
| 38945 | Where are the Children | Mary Higgins Clark | 6 Main St. Finster, MI |
| 75826 | Cross | James Patterson | 237 Biscayne Ave, Miami FL |

If you want to order the table and put books by the same author together, just add an ORDER BY clause at the end.

SELECT ISBN, Title, Name, Address

From Book JOIN Author

ON Book.AuthorID = Author.ID

ORDER BY Author;

Add the ORDER BY clause as the last statement.

Results:

|  |  |  |  |
| --- | --- | --- | --- |
| **ISBN** | **Title** | **Author** | **Author Address** |
| 75826 | Cross | James Patterson | 237 Biscayne Ave, Miami FL |
| 45862 | 61 Hours | Lee Child | 234 Park Ave. NY, NY |
| 28652 | Bad Luck and Trouble | Lee Child | 459 Broadway. NY, NY |
| 12589 | Circle of Friends | Maeve Binchy | 1 Fiona Lane Dublin, Ireland |
| 14582 | Light a Penny Candle | Maeve Binchy | 1 Fiona Lane Dublin, Ireland |
| 38945 | Where are the Children | Mary Higgins Clark | 6 Main St. Finster, MI |

If we add another column to the author table, with an agent, we would have something to group by.

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Name | Address | Agent |
| 134 | Maeve Binchy | 1 Fiona Lane Dublin, Ireland | Bill Smith |
| 248 | Lee Child | 459 Broadway. NY, NY | Bill Smith |
| 943 | Mary Higgins Clark | 6 Main St. Finster, MI | Bill Smith |
| 546 | James Patterson | 237 Biscayne Ave, Miami FL | Mary Finnegan |
| 478 | John Grisham | 578 Illinois Ave. Los Angeles, CA | Mary Finnegan |

SELECT ISBN, Title, Name, Address

From Book JOIN Author

ON Book.AuthorID = Author.ID

Add the group by statement after the ON clause.

Group By Agent

ORDER BY Author;

Add the ORDER BY clause as the last statement.

Results: We get the same 6 books, but they are grouped by agent and within each agent the names are in alphabetical order.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ISBN** | **Title** | **Name** | **Address** | **Agent** |
| 45862 | 61 Hours | Lee Child | 234 Park Ave. NY, NY | Bill Smith |
| 28652 | Bad Luck and Trouble | Lee Child | 459 Broadway. NY, NY | Bill Smith |
| 12589 | Circle of Friends | Maeve Binchy | 1 Fiona Lane Dublin, Ireland | Bill Smith |
| 14582 | Light a Penny Candle | Maeve Binchy | 1 Fiona Lane Dublin, Ireland | Bill Smith |
| 38945 | Where are the Children | Mary Higgins Clark | 6 Main St. Finster, MI | Bill Smith |
|  |  |  |  |  |
| 75826 | Cross | James Patterson | 237 Biscayne Ave, Miami FL | Mary Finnegan |
|  |  |  |  |  |