Joins

Outer Joins

1. Left Join All the rows are presented from the left table (the first table mentioned in the statement). Only rows where the condition is met are presented from the right table.
2. Right Join: All the rows are presented from the right table (the second table mentioned in the statement). Only rows where the condition is met are presented from the left table.
3. All the rows are presented from both tables regardless of if the condition is met.
4. Full Outer Join

Inner Join

You can use both JOIN or INNER JOIN to create an inner join. This only includes rows where the condition is met.

**Example**

**Data**

Here are 2 sample tables. Each has one row that has no match between 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:

|  |  |  |
| --- | --- | --- |
| **Author ID** | **Author** | **Author 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 |

**Results of an Inner Join**

|  |  |  |  |
| --- | --- | --- | --- |
| **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 |

**Results of a Left Outer Join**

Notice the extra book in the table because all the rows in the left table are presented:

|  |  |  |  |
| --- | --- | --- | --- |
| 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 |
| 58383 | The Clan of the Cave Bear | |  |

**Results of a Right Outer Join**

Notice the extra author in the table because all the rows in the right table are presented:

|  |  |  |  |
| --- | --- | --- | --- |
| 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 |
|  |  | John Grisham | 578 Illinois Ave. Los Angeles, CA |

**Results of a Full Outer Join**

Notice the extra author and the extra book in the tables because all the rows in the both tables are presented:

|  |  |  |  |
| --- | --- | --- | --- |
| 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 |
|  |  | John Grisham | 578 Illinois Ave. Los Angeles, CA |
| 58383 | The Clan of the Cave Bear | |  |