<https://www.cnblogs.com/Jessy/p/3525419.html>

left join :左连接，返回左表中所有的记录以及右表中连接字段相等的记录。

right join :右连接，返回右表中所有的记录以及左表中连接字段相等的记录。

inner join: 内连接，又叫等值连接，只返回两个表中连接字段相等的行。

full join:外连接，返回两个表中的行：left join + right join。

cross join:结果是笛卡尔积，就是第一个表的行数乘以第二个表的行数。

关键字: on

数据库在通过连接两张或多张表来返回记录时，都会生成一张中间的临时表，然后再将这张临时表返回给用户。

在使用left jion时，on和where条件的区别如下：

1、 on条件是在生成临时表时使用的条件，它不管on中的条件是否为真，都会返回左边表中的记录。

2、where条件是在临时表生成好后，再对临时表进行过滤的条件。这时已经没有left join的含义（必须返回左边表的记录）了，条件不为真的就全部过滤掉。

假设有两张表：

表1：tab2

|  |  |
| --- | --- |
| id | size |
| 1 | 10 |
| 2 | 20 |
| 3 | 30 |

表2：tab2

|  |  |
| --- | --- |
| size | name |
| 10 | AAA |
| 20 | BBB |
| 20 | CCC |

两条SQL:  
1、select \* form tab1 left join tab2 on (tab1.size = tab2.size) where tab2.name=’AAA’  
2、select \* form tab1 left join tab2 on (tab1.size = tab2.size and tab2.name=’AAA’)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 第一条SQL的过程：     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1、中间表 on条件: tab1.size = tab2.size | |  |  |  |  | | --- | --- | --- | --- | | tab1.id | tab1.size | tab2.size | tab2.name | | 1 | 10 | 10 | AAA | | 2 | 20 | 20 | BBB | | 2 | 20 | 20 | CCC | | 3 | 30 | (null) | (null) | | |  |  | | 2、再对中间表过滤 where 条件： tab2.name=’AAA’ | |  |  |  |  | | --- | --- | --- | --- | | tab1.id | tab1.size | tab2.size | tab2.name | | 1 | 10 | 10 | AAA | | |  |  | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 第二条SQL的过程：     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | 1、中间表 on条件: tab1.size = tab2.size and tab2.name=’AAA’ (条件不为真也会返回左表中的记录) | |  |  |  |  | | --- | --- | --- | --- | | tab1.id | tab1.size | tab2.size | tab2.name | | 1 | 10 | 10 | AAA | | 2 | 20 | (null) | (null) | | 3 | 30 | (null) | (null) | | |

其实以上结果的关键原因就是left join,right join,full join的特殊性，不管on上的条件是否为真都会返回left或right表中的记录，full则具有left和right的特性的并集。 而inner jion没这个特殊性，则条件放在on中和where中，返回的结果集是相同的。

做个快乐的自己。

分类: [数据库总结](http://www.cnblogs.com/Jessy/category/300329.html)