SQL JOINS

1. JOINS helps us to retrieve data from multiple table by writing just one single query.

2. In other word, in your final report you need some columns from table1, some columns from table so instead of writing multiple queries you can write one single query which will travel to both the tables and get the data that you are looking for. This is possible through JOINS.

3. Below are the different types of JOINS that are available in MySQL:

    1. Inner Join. – (Always gets the matching records from multiple tables)
    2. Outer Join
            – Left Outer Join – (Keeps all data from left table wherever no matching record puts NULL)
            – Right Outer Join – (Keeps all data from right table wherever no matching record puts NULL)
            – Full Outer Join – (Keeps all data from both tables wherever no matching record puts NULL)
    3. Cross Join – (Also known as Cartesian Product) (No need of a common column)
    NOTE:
        To Perform a Join you should have atleast one common column between two tables i.e. either the column names should be exactly the same in both the tables or technically they should be same.

I have two tabled named as Products and Price.

product id	name
a	tv
b	phone
c	ac
d	refrigrator
e	LED
f	Micorwave

PRODUCT ID	PRICE
a	500
b	600
c	700
d	900
i	1100
x	1200

As you can see in the above tables ProductId is a common column. I would like to get a report where I get the productid, name and price of the products.

However, productid and name is in table1 (on the left) and price is in table2(on the right) so I need to perform a join in order to get the report with all the three columns.

Select productid, name, price from products
Inner join
Price
Using (productid);
This will generate the result on the right

product id	name	PRICE
a	tv	500
b	phone	600
c	ac	700
d	refrigrator	900

I have two tabled named as Products and Price.   <mark>LEFT OUTER JOIN</mark>

product id	name
a	tv
b	phone
c	ac
d	refrigrator
e	LED
f	Micorwave

PRODUCT ID	PRICE
a	500
b	600
c	700
d	900
i	1100
X	1200

As you can see in the above tables ProductId is a common column. I would like to get a report where I get the productid, name and price of the products.
However, productid and name is in table1 (on the left) and price is in table2(on the right) so I need to perform a join in order to get the report with all the three columns.
Select productid, name, price from products
Left outer join
Price
Using (productid);
This will generate the result on the right

product id	name	PRICE
a	tv	500
b	phone	600
c	ac	700
d	refrigrator	900
e	LED	null
f	Micorwave	null

I have two tabled named as Products and Price.

product id	name
a	tv
b	phone
c	ac
d	refrigrator
e	LED
f	Micorwave

PRODUCT ID	PRICE
a	500
b	600
c	700
d	900
i	1100
x	1200

As you can see in the above tables ProductId is a common column. I would like to get a report where I get the productid, name and price of the products.
However, productid and name is in table1 (on the left) and price is in table2(on the right) so I need to perform a join in order to get the report with all the three columns.
Select productid, name, price from products
Right outer join
Price
Using (productid);

This will generate the result on the right

product id	name	PRICE
a	tv	500
b	phone	600
c	ac	700
d	refrigrator	900
i	null	1100
x	null	1200

I have two tabled named as Products and Price.

product id	name
a	tv
b	phone
c	ac
d	refrigrator
e	LED
f	Micorwave

PRODUCT ID	PRICE
a	500
b	600
c	700
d	900
i	1100
x	1200

As you can see in the above tables ProductId is a common column. I would like to get a report where I get the productid, name and price of the products.

Select productid, name, price from products
Left outer join
Price
Using (productid)
UNION
Select productid, name, price from products
Right outer join
Price
Using (productid);
This will generate the result on the right

product id	name	PRICE
a	tv	500
b	phone	600
c	ac	700
d	refrigrator	900
e	LED	null
f	Micorwave	null
i	null	1100
x	null	1200

We don't have any syntax for Full Outer Join so we need to write Left Join and Right Join query and union them.

I have two tabled named as Products and Price.

product id	name
a	tv
b	phone
c	ac
d	refrigrator
e	LED
f	Micorwave

PRODUCT ID	PRICE
a	500
b	600
c	700
d	900
i	1100
x	1200

This kind of join is also called as Cartesian Product and no common column is required for this join as it matches every row of one table with all the rows of the second table.

Select productid, name, price from products
Cross join
Price;

This will generate the result on the right.

As you can see all the rows of the left table is getting matched with every single price of the right table.

Productid	name	price
a	tv	500
b	phone	500
c	ac	500
d	refrigrator	500
e	LED	500
f	Micorwave	500
a	tv	600
b	phone	600
c	ac	600
d	refrigrator	600
e	LED	600
f	Micorwave	600

I have two tabled named as Products and Price.

product id	name
a	tv
b	phone
c	ac
d	refrigrator
e	LED
f	Micorwave

ID	PRICE
a	500
b	600
c	700
d	900
i	1100
x	1200

As you can see in the above tables ProductId is a column in left table and Id is a column in right table. It means technically the columns are common however they are not stored in the same manner (so theoretically they are different).

Select productid, name, price from products
Left outer join
Price
On (products.productid = price.id);

This will generate the result on the right

product id	name	PRICE
a	tv	500
b	phone	600
c	ac	700
d	refrigrator	900
e	LED	null
f	Micorwave	null