Consider the Country table and Persons table that you created earlier and perform the following:

```
 1 ●     CREATE DATABASE indexxx;
 2 ●     USE indexxx;
 3 ● ⊖   CREATE TABLE country (
 4         Id INT PRIMARY KEY,
 5         Country_name VARCHAR (50) NOT NULL,
 6         Population  BIGINT NOT NULL,
 7         Area BIGINT NOT NULL );
 8
 9 ●     INSERT INTO country VALUES
10        (1,"INDIA",1428627663,2973190),
11        (2,"CHINA",1425671352,9388211),
12        (3,"UNITED STATES",339996563,9147420),
13        (4,"INDONESIA",277534122,1811570),
14        (5,"PAKISTAN",240485658,770880),
15        (6,"NIGERIA",223804632,910770),
16        (7,"BRAZIL",216422446,8358140),
17        (8,"BANGLADESH",172954319,130170),
18        (9,"RUSSIA",144444359,16376870),
19        (10,"MEXICO",128455567,1943950);
20 ●     SELECT * FROM country;
--
```

Id	Country_name	Population	Area
1	INDIA	1428627663	2973190
2	CHINA	1425671352	9388211
3	UNITED STATES	339996563	9147420
4	INDONESIA	277534122	1811570
5	PAKISTAN	240485658	770880
6	NIGERIA	223804632	910770
7	BRAZIL	216422446	8358140
8	BANGLADESH	172954319	130170
9	RUSSIA	144444359	16376870
10	MEXICO	128455567	1943950
NULL	NULL	NULL	NULL

```sql
CREATE TABLE persons (
   Id  INT PRIMARY KEY,
   First_name  VARCHAR (50),
   Last_name  VARCHAR (50),
   Population  BIGINT ,
   Rating  FLOAT,
   Country_Id  INT ,
   Country_name VARCHAR(50),
   FOREIGN KEY (country_Id) REFERENCES country (Id)
   );

INSERT INTO persons VALUES
   (1,"DHRUV","RATHEE",1428627663,3.8,1,"INDIA"),
   (2,"MEI","CHAO",1425671352,3.9,2,"CHINA"),
   (3,"NOAH","OLIVER",339996563,4.6,3,"UNITED STATES"),
   (4,"AGUS","TONO",277534122,3.5,4,"INDONESIA"),
   (5,"SHIBRA","SHAMEER",240485658,4.8,5,"PAKISTAN"),
   (6,"OLUMIDE","NGOZI",223804632,2.8,6,"NIGERIA"),
   (7,"AZKA","AZLAN",240485658,4.8,5,"PAKISTAN"),
   (8,"SADIA","FAHIM",172954319,2.1,8,"BANGLADESH"),
   (9,"ALEXANDER","IVAN",144444359,4.0,9,"RUSSIA"),
   (10,"MARIA","DANIEL",339996563,4.6,3,"UNITED STATES"),
   (11,"JUSTIN","FRIDGE",339996563,4.6,3,"UNITED STATES");

SELECT * FROM persons;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap C

Id	First_name	Last_name	Population	Rating	Country_Id	Country_name
1	DHRUV	RATHEE	1428627663	3.8	1	INDIA
2	MEI	CHAO	1425671352	3.9	2	CHINA
3	NOAH	OLIVER	339996563	4.6	3	UNITED STATES
4	AGUS	TONO	277534122	3.5	4	INDONESIA
5	SHIBRA	SHAMEER	240485658	4.8	5	PAKISTAN
6	OLUMIDE	NGOZI	223804632	2.8	6	NIGERIA
7	AZKA	AZLAN	240485658	4.8	5	PAKISTAN
8	SADIA	FAHIM	172954319	2.1	8	BANGLADESH
9	ALEXANDER	IVAN	144444359	4	9	RUSSIA
10	MARIA	DANIEL	339996563	4.6	3	UNITED STATES
11	JUSTIN	FRIDGE	339996563	4.6	3	UNITED STATES
NULL	NULL	NULL	NULL	NULL	NULL	NULL

1. Add a new column called DOB in Persons table with data type as Date.

```
108 ●     ALTER TABLE persons ADD COLUMN DOB DATE;
109
110 ●     UPDATE persons SET DOB = '2000-11-23' WHERE Id = 1;
111 ●     UPDATE persons SET DOB = '1997-02-05' WHERE Id = 2;
112 ●     UPDATE persons SET DOB = '1998-09-17' WHERE Id = 3;
113 ●     UPDATE persons SET DOB = '2001-04-04' WHERE Id = 4;
114 ●     UPDATE persons SET DOB = '1984-11-28' WHERE Id = 5;
115 ●     UPDATE persons SET DOB = '1980-10-31' WHERE Id = 6;
116 ●     UPDATE persons SET DOB = '1993-09-02' WHERE Id = 7;
117 ●     UPDATE persons SET DOB = '1997-12-04' WHERE Id = 8;
118 ●     UPDATE persons SET DOB = '1997-08-28' WHERE Id = 9;
119 ●     UPDATE persons SET DOB = '2003-10-28' WHERE Id = 10;
120 ●     UPDATE persons SET DOB = '1999-10-07' WHERE Id = 11;
121       |
122 ●     SELECT * FROM persons;
123
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Conter

Id	First_name	Last_name	Population	Rating	Country_Id	Country_name	DOB
1	DHRUV	RATHEE	1428627663	3.8	1	INDIA	2000-11-23
2	MEI	CHAO	1425671352	3.9	2	CHINA	1997-02-05
3	NOAH	OLIVER	339996563	4.6	3	UNITED STATES	1998-09-17
4	AGUS	TONO	277534122	3.5	4	INDONESIA	2001-04-04
5	SHIBRA	SHAMEER	240485658	4.8	5	PAKISTAN	1984-11-28
6	OLUMIDE	NGOZI	223804632	2.8	6	NIGERIA	1980-10-31
7	AZKA	AZLAN	240485658	4.8	5	PAKISTAN	1993-09-02
8	SADIA	FAHIM	172954319	2.1	8	BANGLADESH	1997-12-04
9	ALEXANDER	IVAN	144444359	4	9	RUSSIA	1997-08-28
10	MARIA	DANIEL	339996563	4.6	3	UNITED STATES	2003-10-28
11	JUSTIN	FRIDGE	339996563	4.6	3	UNITED STATES	1999-10-07
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

persons 49

2. Write a user-defined function to calculate age using DOB.

```
DELIMITER //

CREATE FUNCTION CalculateAge(DOB DATE)
RETURNS INT
BEGIN
    DECLARE Age INT;
    SET Age = TIMESTAMPDIFF(YEAR, DOB, CURDATE());
    RETURN Age;
END //

DELIMITER ;
```

3. Write a select query to fetch the Age of all persons using the function that has been created.

```
147
148 •    SELECT Id, CONCAT(First_name,' ', Last_name) AS Full_Name,
149      DOB, CalculateAge(DOB) AS Age FROM persons;
150
151
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Id	Full_Name	DOB	Age
1	DHRUV RATHEE	2000-11-23	23
2	MEI CHAO	1997-02-05	27
3	NOAH OLIVER	1998-09-17	25
4	AGUS TONO	2001-04-04	23
5	SHIBRA SHAMEER	1984-11-28	39
6	OLUMIDE NGOZI	1980-10-31	43
7	AZKA AZLAN	1993-09-02	30
8	SADIA FAHIM	1997-12-04	26
9	ALEXANDER IVAN	1997-08-28	26
10	MARIA DANIEL	2003-10-28	20
11	JUSTIN FRIDGE	1999-10-07	24

4. Perform inner join, Left join, and Right join on the tables

INNER JOIN

```
154 •    SELECT * FROM persons
155      INNER JOIN country ON persons.Country_Id = country.Id;
156
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Id	First_name	Last_name	Population	Rating	Country_Id	Country_name	DOB	Id	Country_name	Population	Area
1	DHRUV	RATHEE	1428627663	3.8	1	INDIA	2000-11-23	1	INDIA	1428627663	2973190
2	MEI	CHAO	1425671352	3.9	2	CHINA	1997-02-05	2	CHINA	1425671352	9388211
3	NOAH	OLIVER	339996563	4.6	3	UNITED STATES	1998-09-17	3	UNITED STATES	339996563	9147420
4	AGUS	TONO	277534122	3.5	4	INDONESIA	2001-04-04	4	INDONESIA	277534122	1811570
5	SHIBRA	SHAMEER	240485658	4.8	5	PAKISTAN	1984-11-28	5	PAKISTAN	240485658	770880
6	OLUMIDE	NGOZI	223804632	2.8	6	NIGERIA	1980-10-31	6	NIGERIA	223804632	910770
7	AZKA	AZLAN	240485658	4.8	5	PAKISTAN	1993-09-02	5	PAKISTAN	240485658	770880
8	SADIA	FAHIM	172954319	2.1	8	BANGLADESH	1997-12-04	8	BANGLADESH	172954319	130170
9	ALEXANDER	IVAN	144444359	4	9	RUSSIA	1997-08-28	9	RUSSIA	144444359	16376870
10	MARIA	DANIEL	339996563	4.6	3	UNITED STATES	2003-10-28	3	UNITED STATES	339996563	9147420
11	JUSTIN	FRIDGE	339996563	4.6	3	UNITED STATES	1999-10-07	3	UNITED STATES	339996563	9147420

RIGHT JOIN

```
161 ●   SELECT * FROM persons
162     RIGHT JOIN country ON persons.Country_Id = country.Id;
163
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: IA

Id	First_name	Last_name	Population	Rating	Country_Id	Country_name	DOB	Id	Country_name	Population	Area
1	DHRUV	RATHEE	1428627663	3.8	1	INDIA	2000-11-23	1	INDIA	1428627663	2973190
2	MEI	CHAO	1425671352	3.9	2	CHINA	1997-02-05	2	CHINA	1425671352	9388211
3	NOAH	OLIVER	339996563	4.6	3	UNITED STATES	1998-09-17	3	UNITED STATES	339996563	9147420
10	MARIA	DANIEL	339996563	4.6	3	UNITED STATES	2003-10-28	3	UNITED STATES	339996563	9147420
11	JUSTIN	FRIDGE	339996563	4.6	3	UNITED STATES	1999-10-07	3	UNITED STATES	339996563	9147420
4	AGUS	TONO	277534122	3.5	4	INDONESIA	2001-04-04	4	INDONESIA	277534122	1811570
5	SHIBRA	SHAMEER	240485658	4.8	5	PAKISTAN	1984-11-28	5	PAKISTAN	240485658	770880
7	AZKA	AZLAN	240485658	4.8	5	PAKISTAN	1993-09-02	5	PAKISTAN	240485658	770880
6	OLUMIDE	NGOZI	223804632	2.8	6	NIGERIA	1980-10-31	6	NIGERIA	223804632	910770
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	7	BRAZIL	216422446	8358140
8	SADIA	FAHIM	172954319	2.1	8	BANGLADESH	1997-12-04	8	BANGLADESH	172954319	130170
9	ALEXANDER	IVAN	144444359	4	9	RUSSIA	1997-08-28	9	RUSSIA	144444359	16376870
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	10	MEXICO	128455567	1943950

LEFT JOIN

```
158 ●   SELECT * FROM persons
159     LEFT JOIN country  ON persons.Country_Id = country.Id;
160
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: IA

Id	First_name	Last_name	Population	Rating	Country_Id	Country_name	DOB	Id	Country_name	Population	Area
1	DHRUV	RATHEE	1428627663	3.8	1	INDIA	2000-11-23	1	INDIA	1428627663	2973190
2	MEI	CHAO	1425671352	3.9	2	CHINA	1997-02-05	2	CHINA	1425671352	9388211
3	NOAH	OLIVER	339996563	4.6	3	UNITED STATES	1998-09-17	3	UNITED STATES	339996563	9147420
4	AGUS	TONO	277534122	3.5	4	INDONESIA	2001-04-04	4	INDONESIA	277534122	1811570
5	SHIBRA	SHAMEER	240485658	4.8	5	PAKISTAN	1984-11-28	5	PAKISTAN	240485658	770880
6	OLUMIDE	NGOZI	223804632	2.8	6	NIGERIA	1980-10-31	6	NIGERIA	223804632	910770
7	AZKA	AZLAN	240485658	4.8	5	PAKISTAN	1993-09-02	5	PAKISTAN	240485658	770880
8	SADIA	FAHIM	172954319	2.1	8	BANGLADESH	1997-12-04	8	BANGLADESH	172954319	130170
9	ALEXANDER	IVAN	144444359	4	9	RUSSIA	1997-08-28	9	RUSSIA	144444359	16376870
10	MARIA	DANIEL	339996563	4.6	3	UNITED STATES	2003-10-28	3	UNITED STATES	339996563	9147420
11	JUSTIN	FRIDGE	339996563	4.6	3	UNITED STATES	1999-10-07	3	UNITED STATES	339996563	9147420