1)Convert bookstore.xml into json

```
<bookstore>
  <book>
    <title>Harry Potter</title>
    <author>J.K. Rowling</author>
    <price>29.99</price>
    <available>true</available>
  </book>
  <book>
    <title>The Hobbit</title>
    <author>J.R.R. Tolkien</author>
    <price>19.99</price>
    <available>false</available>
  </book>
</bookstore>
```

here is the conversion of the given XML into JSON format

```
{
  "bookstore": {
    "book": [
      {
        "title": "Harry Potter",
        "author": "J.K. Rowling",
        "price": 29.99,
        "available": true
      },
      {
```

```
      "title": "The Hobbit",
      "author": "J.R.R. Tolkien",
      "price": 19.99,
      "available": false
    }
  ]
 }
}
```

2)Write a query to give inner join,left outer join,right outer join and full outer join

```
create table dep(D_ID varchar(30) PRIMARY
 KEY,D_NAME varchar(30));
Query OK, 0 rows affected (0.04 sec)

create table emp(E_ID varchar(30) PRIMARY KEY,E_FName varchar(30),E_Lname varchar(30),D_ID
varchar(30),FOREIGN KEY (D_ID) REFERENCES dep(D_ID));
Query OK, 0 rows affected (0.07 sec)
```

1) INNER JOIN

```
select e.E_ID,e.E_FName,e.E_Lname,d.D_NAME from emp e INNER JOIN dep
d ON e.D_ID=d.D_ID;
+------+---------+---------+--------+
| E_ID | E_FName | E_Lname | D_NAME |
+------+---------+---------+--------+
| 1    | john    | doe     | HR     |
| 2    | jane    | smith   | sales  |
| 3    | mike    | johnson | IT     |
| 4    | emily   | davis   | HR     |
+------+---------+---------+--------+
```

4 rows in set (0.00 sec)

2) LEFT OUTER JOIN

select e.E_ID,e.E_FName,e.E_Lname,d.D_NAME from emp e LEFT OUTER JOIN

dep d ON e.D_ID=d.D_ID;

```
+------+---------+---------+--------+
| E_ID | E_FName | E_Lname | D_NAME |
+------+---------+---------+--------+
| 1    | john    | doe     | HR     |
| 2    | jane    | smith   | sales  |
| 3    | mike    | johnson | IT     |
| 4    | emily   | davis   | HR     |
+------+---------+---------+--------+
```

4 rows in set (0.00 sec)

3) RIGHT OUTER JOIN

mysql> select e.E_ID,e.E_FName,e.E_Lname,d.D_NAME from emp e RIGHT OUTER JOI

N dep d ON e.D_ID=d.D_ID;

```
+------+---------+---------+-----------+
| E_ID | E_FName | E_Lname | D_NAME    |
+------+---------+---------+-----------+
| 1    | john    | doe     | HR        |
| 4    | emily   | davis   | HR        |
| 2    | jane    | smith   | sales     |
| 3    | mike    | johnson | IT        |
| NULL | NULL    | NULL    | marketing |
+------+---------+---------+-----------+
```

5 rows in set (0.00 sec)

4) FULL OUTER JOIN

```
select e.E_ID,e.E_FName,e.E_Lname,d.D_NAME from emp e LEFT OUTER JOIN dep d ON
e.D_ID=d.D_ID UNION  select e.E_ID,e.E_FName,e.E_Lname,d.D_NAME from emp e RIGHT OUTER
JOIN  dep d ON e.D_ID=d.D_ID;
```

```
+------+---------+---------+-----------+
| E_ID | E_FName | E_Lname | D_NAME    |
+------+---------+---------+-----------+
| 1    | john    | doe     | HR        |
| 2    | jane    | smith   | sales     |
| 3    | mike    | johnson | IT        |
| 4    | emily   | davis   | HR        |
| NULL | NULL    | NULL    | marketing |
+------+---------+---------+-----------+
5 rows in set (0.01 sec)
```

Find Duplicate records

1) Based on firstName

```
select E_FNAME,count(*) from emp GROUP BY E_FNAME HAVING COUNT(*)>1;
```

```
+---------+----------+
| E_FNAME | count(*) |
+---------+----------+
| john    |        2 |
+---------+----------+
1 row in set (0.00 sec)
```

2) based on email

```
select EMAIL,count(*) from emp GROUP BY EMAIL HAVING COUNT(*)>1;
```

```
+-----------------+----------+
| EMAIL           | count(*) |
+-----------------+----------+
| kapil@gmail.com |        2 |
| NULL            |        3 |
+-----------------+----------+
2 rows in set (0.00 sec)
```

3) Based on firstname and Last Name

```
select E_FNAME,E_Lname,count(*) from emp GROUP BY E_FNAME,E_lname HAV
ING COUNT(*)>1;
+---------+---------+----------+
| E_FNAME | E_Lname | count(*) |
+---------+---------+----------+
| john    | davis   |        2 |
+---------+---------+----------+
1 row in set (0.00 sec)
```

4) Based on firstname and email

```
select E_FNAME,EMAIL,count(*) from emp GROUP BY E_FNAME,EMAIL HAVING
COUNT(*)>1;
Empty set (0.00 sec)

mysql> select * from emp;
+------+---------+---------+------+-----------------+
| E_ID | E_FName | E_Lname | D_ID | EMAIL           |
+------+---------+---------+------+-----------------+
| 1    | john    | doe     | 10   | kapil@gmail.com |
```

| 2 | jane | smith | 20 | kapil@gmail.com |

| 3 | mike | johnson | 30 | NULL |

| 4 | emily | davis | 10 | NULL |

| 5 | john | davis | 10 | NULL |

| 6 | john | davis | 10 | dev@gmail |

+------+---------+---------+------+----------------+

6 rows in set (0.00 sec)