Database : Courses

Tables :

1. Courses_info

course_id	course_name
5011	Web designing
5012	Web development
5013	Programming
NULL	NULL

2. Subjects

sub_id	sub_name	course_id
221	HTML	5011
222	CSS	5011
223	Java S CSS	5011
224	PHP	5012
225	Python	5012
226	.NET	5012
227	JAVA	5012
228	C++	5013
229	C	5013
NULL	NULL	NULL

3. Chapters

ch_id	ch_name	sub_id
101	HTML TEXT	221
102	HTML IMAGE	221
103	HTML LIST	221
104	HTML LINK	221
105	HTML FORM	221
106	CSS BORDER	222
107	CSS POSITION	222
108	CSS SELECTOR	222
109	PHP CONDITIONS	224
110	PHP ARRAYS	224
111	JAVA METHODS	227
112	JAVA OOPS	227
NULL	NULL	NULL

4. Sub_Chapters

sub_ch_id	sub_ch_name	ch_id
1203	HTML UNORDERED LIST	103
1204	HTML TEXT LINK	104
1205	HTML IMAGE LINK	104
1206	HTML BORDER STYLE	104
1207	BORDER WIDTH	106
1208	ABSOLUTE POSITION	107
1209	ELEMENT SELECTOR	108
1210	PHP IF CONDITION	109
1211	PHP INDEX ARRAY	109
1212	PHP ASSOCIATE ARRAY	110
1213	JAVA METHOD OVERLOADING	112
1214	SQL INNER JOIN	224
NULL	NULL	NULL

2. Write queries which demonstrate inner join which uses more than two tables.

```
mysql> select courses_info.course_name, subjects.sub_name, chapters.ch_name,sub_chapters.sub_ch_name
    -> from courses_info
    -> inner join subjects on courses_info.course_id = subjects.course_id
    -> inner join chapters on subjects.sub_id = chapters.sub_id
    -> inner join sub_chapters on chapters.ch_id = sub_chapters.ch_id;
+-----------------+----------+----------------+-------------------------+
| course_name     | sub_name | ch_name        | sub_ch_name             |
+-----------------+----------+----------------+-------------------------+
| Web designing   | HTML     | HTML LINK      | HTML TEXT LINK          |
| Web designing   | HTML     | HTML LINK      | HTML IMAGE LINK         |
| Web designing   | HTML     | HTML LINK      | HTML BORDER STYLE       |
| Web designing   | HTML     | HTML LIST      | HTML ORDERED LIST       |
| Web designing   | HTML     | HTML LIST      | HTML UNORDERED LIST     |
| Web designing   | HTML     | HTML TEXT      | HTML PARAGRAPH          |
| Web designing   | CSS      | CSS SELECTOR   | ELEMENT SELECTOR        |
| Web designing   | CSS      | CSS POSITION   | ABSOLUTE POSITION       |
| Web designing   | CSS      | CSS BORDER     | BORDER WIDTH            |
| Web development | PHP      | PHP ARRAYS     | PHP ASSOCIATE ARRAY     |
| Web development | PHP      | PHP ARRAYS     | SQL INNER JOIN          |
| Web development | PHP      | PHP CONDITIONS | PHP IF CONDITION        |
| Web development | PHP      | PHP CONDITIONS | PHP INDEX ARRAY         |
| Web development | JAVA     | JAVA OOPS      | JAVA METHOD OVERLOADING |
+-----------------+----------+----------------+-------------------------+
14 rows in set (0.12 sec)

mysql>
```

3.Write queries which demonstrate left join which uses more than two tables.

```
mysql> select courses_info.course_name,
    -> subjects.sub_name,
    -> chapters.ch_name,
    -> sub_chapters.sub_ch_name
    -> from courses_info
    -> left join subjects on courses_info.course_id = subjects.course_id
    -> left join chapters on subjects.sub_id = chapters.sub_id
    -> left join sub_chapters on chapters.ch_id = sub_chapters.ch_id;
+-----------------+-------------+----------------+-------------------------+
| course_name     | sub_name    | ch_name        | sub_ch_name             |
+-----------------+-------------+----------------+-------------------------+
| Web designing   | HTML        | HTML TEXT      | HTML PARAGRAPH          |
| Web designing   | HTML        | HTML IMAGE     | NULL                    |
| Web designing   | HTML        | HTML LIST      | HTML ORDERED LIST       |
| Web designing   | HTML        | HTML LIST      | HTML UNORDERED LIST     |
| Web designing   | HTML        | HTML LINK      | HTML TEXT LINK          |
| Web designing   | HTML        | HTML LINK      | HTML IMAGE LINK         |
| Web designing   | HTML        | HTML LINK      | HTML BORDER STYLE       |
| Web designing   | HTML        | HTML FORM      | NULL                    |
| Web designing   | CSS         | CSS BORDER     | BORDER WIDTH            |
| Web designing   | CSS         | CSS POSITION   | ABSOLUTE POSITION       |
| Web designing   | CSS         | CSS SELECTOR   | ELEMENT SELECTOR        |
| Web designing   | Java Script | NULL           | NULL                    |
| Web development | PHP         | PHP CONDITIONS | PHP IF CONDITION        |
| Web development | PHP         | PHP CONDITIONS | PHP INDEX ARRAY         |
| Web development | PHP         | PHP ARRAYS     | PHP ASSOCIATE ARRAY     |
| Web development | PHP         | PHP ARRAYS     | SQL INNER JOIN          |
| Web development | Python      | NULL           | NULL                    |
| Web development | .NET        | NULL           | NULL                    |
| Web development | JAVA        | JAVA METHODS   | NULL                    |
| Web development | JAVA        | JAVA OOPS      | JAVA METHOD OVERLOADING |
| Programming     | C++         | NULL           | NULL                    |
| Programming     | C           | NULL           | NULL                    |
+-----------------+-------------+----------------+-------------------------+
22 rows in set (0.05 sec)
```

4. Write queries which demonstrate Right join which uses more than two tables.

```
mysql> select courses_info.course_name,
    -> subjects.sub_name,
    -> chapters.ch_name,
    -> sub_chapters.sub_ch_name
    -> from courses_info
    -> right join subjects on courses_info.course_id = subjects.course_id
    -> right join chapters on subjects.sub_id = chapters.sub_id
    -> right join sub_chapters on chapters.ch_id = sub_chapters.ch_id;
+-----------------+-----------+----------------+------------------------+
| course_name     | sub_name  | ch_name        | sub_ch_name            |
+-----------------+-----------+----------------+------------------------+
| Web designing   | HTML      | HTML TEXT      | HTML PARAGRAPH         |
| Web designing   | HTML      | HTML LIST      | HTML ORDERED LIST      |
| Web designing   | HTML      | HTML LIST      | HTML UNORDERED LIST    |
| Web designing   | HTML      | HTML LINK      | HTML TEXT LINK         |
| Web designing   | HTML      | HTML LINK      | HTML IMAGE LINK        |
| Web designing   | HTML      | HTML LINK      | HTML BORDER STYLE      |
| Web designing   | CSS       | CSS BORDER     | BORDER WIDTH           |
| Web designing   | CSS       | CSS POSITION   | ABSOLUTE POSITION      |
| Web designing   | CSS       | CSS SELECTOR   | ELEMENT SELECTOR       |
| Web development | PHP       | PHP CONDITIONS | PHP IF CONDITION       |
| Web development | PHP       | PHP CONDITIONS | PHP INDEX ARRAY        |
| Web development | PHP       | PHP ARRAYS     | PHP ASSOCIATE ARRAY    |
| Web development | JAVA      | JAVA OOPS      | JAVA METHOD OVERLOADING|
| Web development | PHP       | PHP ARRAYS     | SQL INNER JOIN         |
+-----------------+-----------+----------------+------------------------+
14 rows in set (0.00 sec)
```

5. Write queries which demonstrate sub queries
TABLES : EMPLOYEE and OFFICES

emp_id	first_name	last_name	office_code
101	SURAJ	PATEL	1
102	DIVYA	PAWAR	1
103	FIZA	MANVAR	2
104	YUKTA	PATIL	6
105	JOE	LIO	4
106	GEORGE	MARIE	3
107	ANTHONY	BOW	4
108	POOJA	SINGH	5
109	DIVYA	SOM	5
110	RAM	NAHAR	5
NULL	NULL	NULL	NULL

office_code	city	country
1	NYC	USA
2	PARIS	FRANCE
3	TOKYO	JAPAN
4	LONDON	UK
5	MUMBAI	INDIA
6	SYDNEY	AUS
NULL	NULL	NULL

```
ERROR 1242 (21000): Subquery returns more than 1 row
mysql> Select last_name, first_name from employees where office_code
    -> IN (SELECT office_code from offices where country = 'INDIA');
+-----------+------------+
| last_name | first_name |
+-----------+------------+
| SINGH     | POOJA      |
| SOM       | DIVYA      |
| NAHAR     | RAM        |
+-----------+------------+
3 rows in set (0.04 sec)
```

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