DBMS Experiment-6

(Batch-A1)

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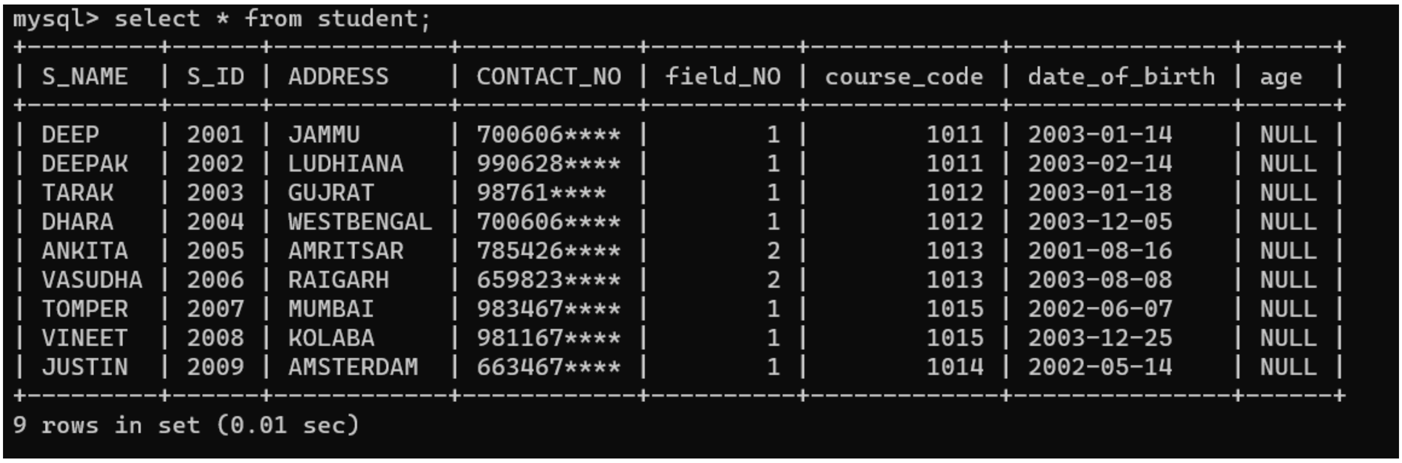
Experiment Number	6

Aim:

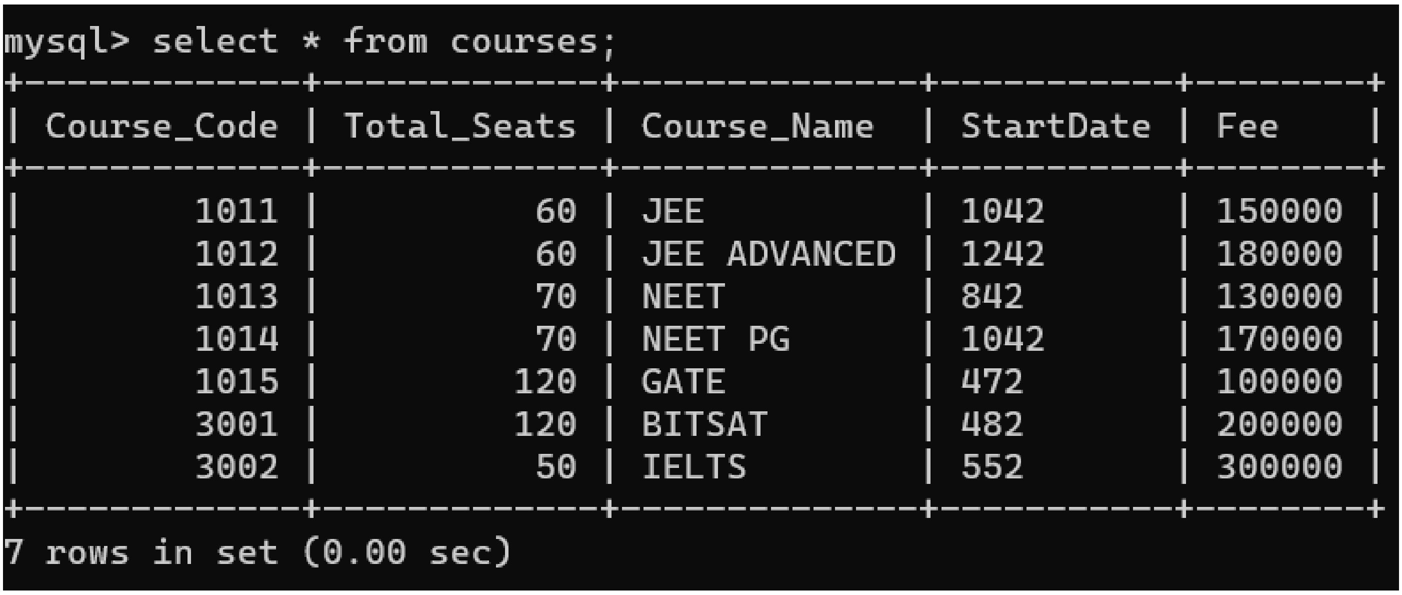
To perform date-time and set operations on the database.

Implementation:

Following tables/relations were used for implementing the various queries-



```
mysql> select * from student;
+---------+------+------------+------------+----------+-------------+---------------+------+
| S_NAME  | S_ID | ADDRESS    | CONTACT_NO | field_NO | course_code | date_of_birth | age  |
+---------+------+------------+------------+----------+-------------+---------------+------+
| DEEP    | 2001 | JAMMU      | 700606**** |        1 |        1011 | 2003-01-14    | NULL |
| DEEPAK  | 2002 | LUDHIANA   | 990628**** |        1 |        1011 | 2003-02-14    | NULL |
| TARAK   | 2003 | GUJRAT     | 98761****  |        1 |        1012 | 2003-01-18    | NULL |
| DHARA   | 2004 | WESTBENGAL | 700606**** |        1 |        1012 | 2003-12-05    | NULL |
| ANKITA  | 2005 | AMRITSAR   | 785426**** |        2 |        1013 | 2001-08-16    | NULL |
| VASUDHA | 2006 | RAIGARH    | 659823**** |        2 |        1013 | 2003-08-08    | NULL |
| TOMPER  | 2007 | MUMBAI     | 983467**** |        1 |        1015 | 2002-06-07    | NULL |
| VINEET  | 2008 | KOLABA     | 981167**** |        1 |        1015 | 2003-12-25    | NULL |
| JUSTIN  | 2009 | AMSTERDAM  | 663467**** |        1 |        1014 | 2002-05-14    | NULL |
+---------+------+------------+------------+----------+-------------+---------------+------+
9 rows in set (0.01 sec)
```



```
mysql> select * from courses;
+-------------+-------------+--------------+-----------+--------+
| Course_Code | Total_Seats | Course_Name  | StartDate | Fee    |
+-------------+-------------+--------------+-----------+--------+
|        1011 |          60 | JEE          | 1042      | 150000 |
|        1012 |          60 | JEE ADVANCED | 1242      | 180000 |
|        1013 |          70 | NEET         | 842       | 130000 |
|        1014 |          70 | NEET PG      | 1042      | 170000 |
|        1015 |         120 | GATE         | 472       | 100000 |
|        3001 |         120 | BITSAT       | 482       | 200000 |
|        3002 |          50 | IELTS        | 552       | 300000 |
+-------------+-------------+--------------+-----------+--------+
7 rows in set (0.00 sec)
```

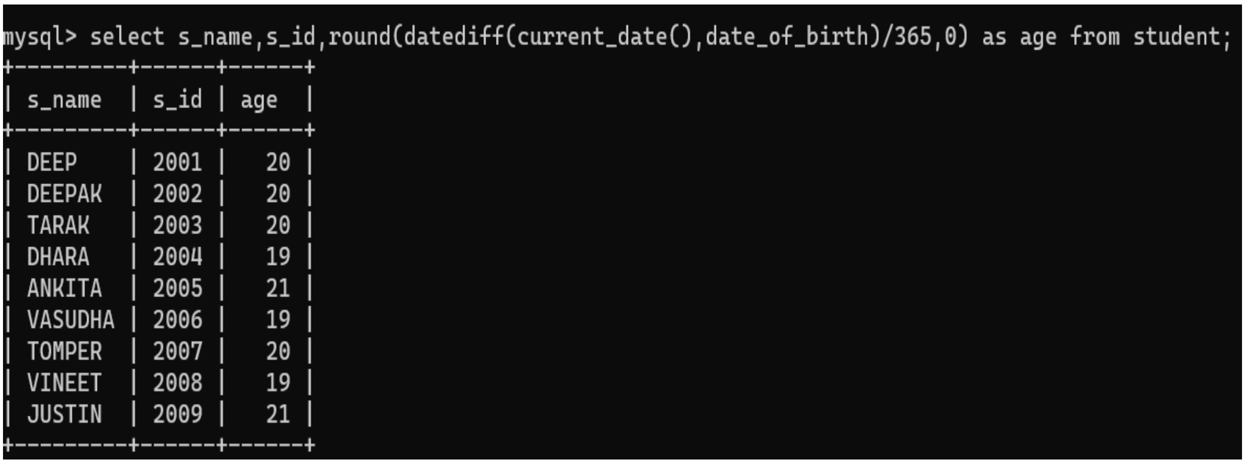
Following queries were implemented-

[A] Date-time operations

Query-1

Calculating age of students using current date and date of birth

select s_name,s_id,round(datediff(current_date(),date_of_birth)/365,0) as age from student;

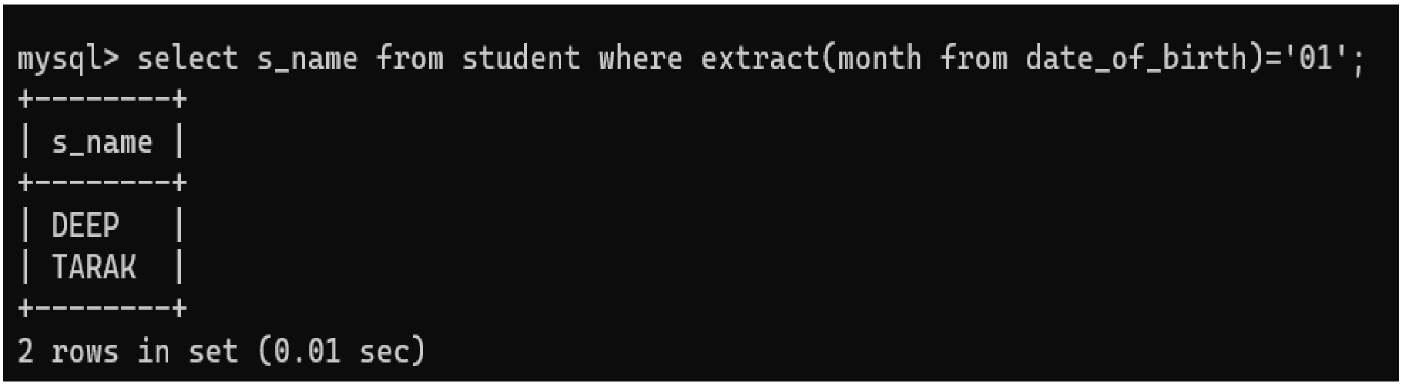


```
mysql> select s_name,s_id,round(datediff(current_date(),date_of_birth)/365,0) as age from student;
+---------+------+------+
| s_name  | s_id | age  |
+---------+------+------+
| DEEP    | 2001 |   20 |
| DEEPAK  | 2002 |   20 |
| TARAK   | 2003 |   20 |
| DHARA   | 2004 |   19 |
| ANKITA  | 2005 |   21 |
| VASUDHA | 2006 |   19 |
| TOMPER  | 2007 |   20 |
| VINEET  | 2008 |   19 |
| JUSTIN  | 2009 |   21 |
+---------+------+------+
```

Query-2

Finding name of students born in the same month using EXTRACT.

select s_name from student where extract(month from date_of_birth)='01';



```
mysql> select s_name from student where extract(month from date_of_birth)='01';
+--------+
| s_name |
+--------+
| DEEP   |
| TARAK  |
+--------+
2 rows in set (0.01 sec)
```

[B] Set Operations

[I] Union operation-

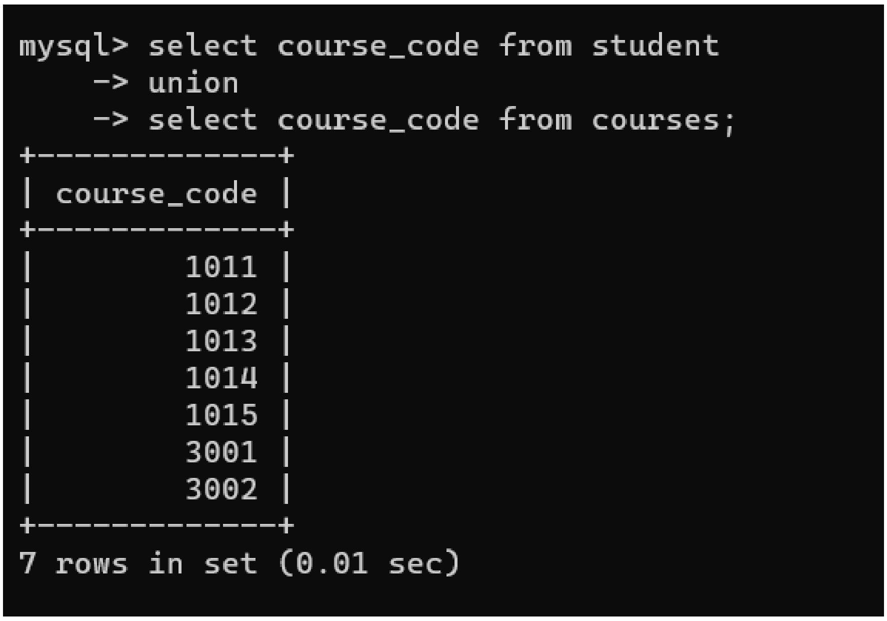
Query-1

Displaying the union of course_code column from table student and courses.

select course_code from student

-> union

-> select course_code from courses;



```
mysql> select course_code from student
    -> union
    -> select course_code from courses;
+-------------+
| course_code |
+-------------+
|        1011 |
|        1012 |
|        1013 |
|        1014 |
|        1015 |
|        3001 |
|        3002 |
+-------------+
7 rows in set (0.01 sec)
```

[II] Intersection operation-

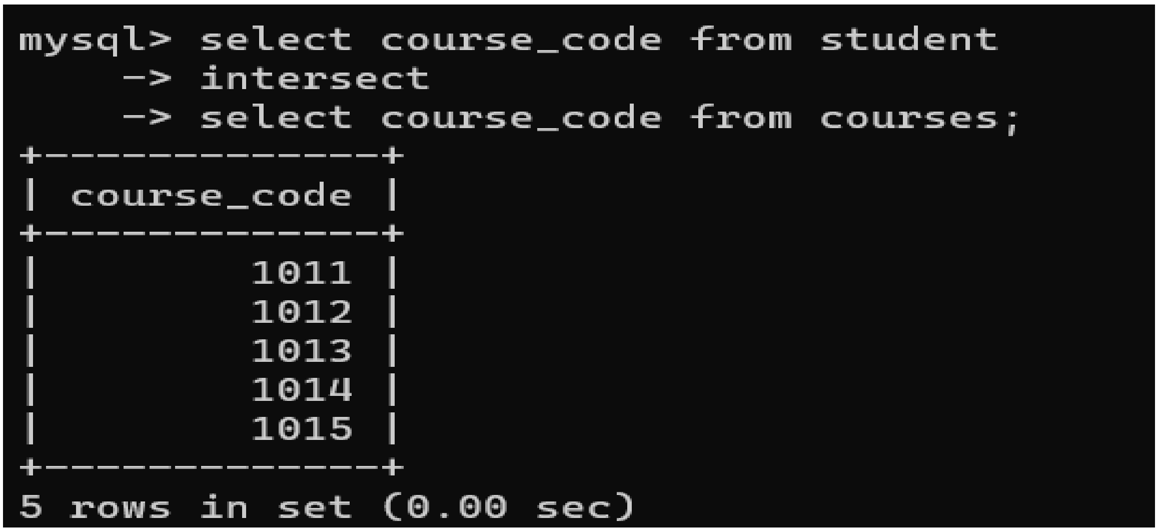
Query-1

Displaying the intersection of course_code from tables student and courses i.e. finding common course ids from both the tables.

select course_code from student

-> intersect

-> select course_code from courses;



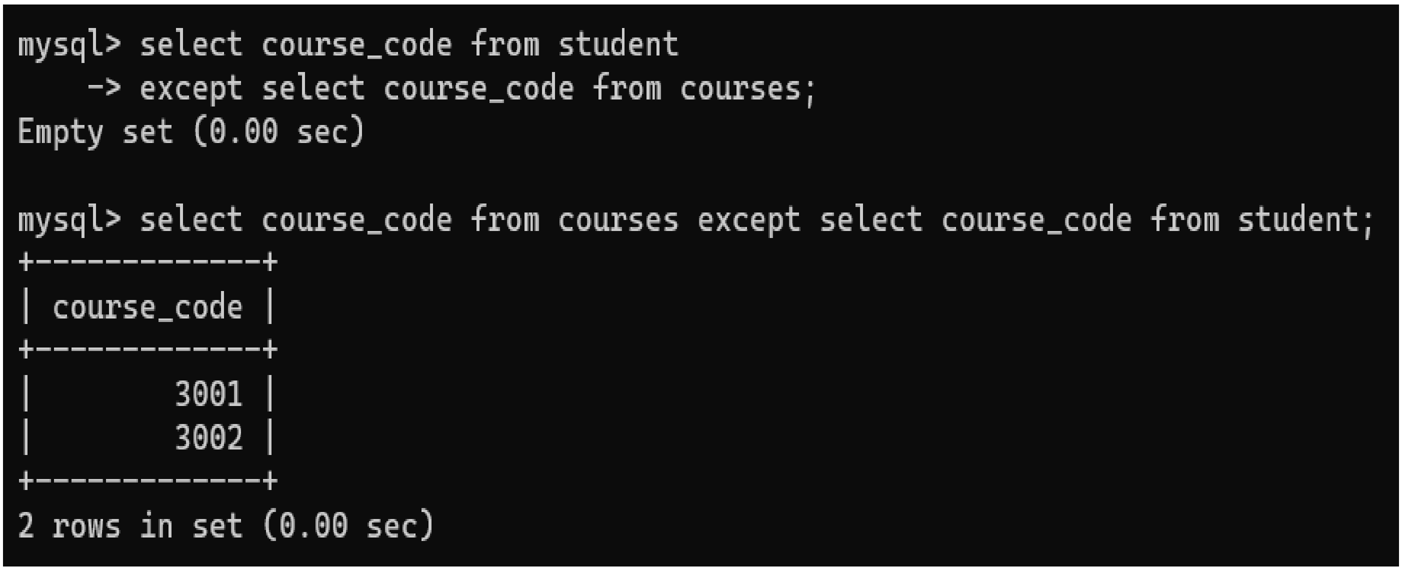
```
mysql> select course_code from student
    -> intersect
    -> select course_code from courses;
+-------------+
| course_code |
+-------------+
|        1011 |
|        1012 |
|        1013 |
|        1014 |
|        1015 |
+-------------+
5 rows in set (0.00 sec)
```

[III] Difference operation-

Query-1

Viewing the details of all those course ids present in the courses table but not in the student table.

select course_code from courses except select course_code from student;



```
mysql> select course_code from student
    -> except select course_code from courses;
Empty set (0.00 sec)

mysql> select course_code from courses except select course_code from student;
+-------------+
| course_code |
+-------------+
|        3001 |
|        3002 |
+-------------+
2 rows in set (0.00 sec)
```

Conclusion:

By performing this experiment, we were able to understand the different date-time and set operations that can be implemented on a particular database in MySQL.