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Prof. VB

CS457L

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1.

```
MariaDB [19610dm]> create table scores(
    -> studentsName varchar(30),
    -> score int,
    -> maxScore int);
Query OK, 0 rows affected (0.015 sec)
```

```
MariaDB [19610dm]> describe scores;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| studentsName | varchar(30) | YES  |     | NULL    |       |
| score        | int(11)     | YES  |     | NULL    |       |
| maxScore     | int(11)     | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
3 rows in set (0.001 sec)
```

2.

```
MariaDB [19610dm]> insert into scores(studentsName, score, maxScore)
    -> values('Kyle', 80, 200);
Query OK, 1 row affected (0.004 sec)

MariaDB [19610dm]> select * from scores;
+--------------+-------+----------+
| studentsName | score | maxScore |
+--------------+-------+----------+
| Kyle         |    80 |      200 |
+--------------+-------+----------+
1 row in set (0.000 sec)
```

3.

```
MariaDB [19610dm]> select studentsName as name, score
    -> from scores
    -> where maxScore = 200;
+------+-------+
| name | score |
+------+-------+
| Kyle |    80 |
+------+-------+
1 row in set (0.000 sec)
```

4.

```
MariaDB [19610dm]> create table appts(
    -> student varchar(14),
    -> advisor varchar(3),
    -> room int);
Query OK, 0 rows affected (0.016 sec)

MariaDB [19610dm]> describe appts;
+---------+-------------+------+-----+---------+-------+
| Field   | Type        | Null | Key | Default | Extra |
+---------+-------------+------+-----+---------+-------+
| student | varchar(14) | YES  |     | NULL    |       |
| advisor | varchar(3)  | YES  |     | NULL    |       |
| room    | int(11)     | YES  |     | NULL    |       |
+---------+-------------+------+-----+---------+-------+
3 rows in set (0.001 sec)
```

5.

```
MariaDB [19610dm]> insert into appts(student, advisor, room)
    -> values('Kelly', 'JSR', 5);
Query OK, 1 row affected (0.003 sec)

MariaDB [19610dm]> select * from appts;
+---------+---------+------+
| student | advisor | room |
+---------+---------+------+
| Kelly   | JSR     |    5 |
+---------+---------+------+
1 row in set (0.000 sec)
```

6.

```
MariaDB [19610dm]> select student from appts
    -> where advisor = 'JSR';
+---------+
| student |
+---------+
| Kelly   |
+---------+
1 row in set (0.000 sec)
```

7.

Create table FRIENDS

```
MariaDB [19610dm]> create table FRIENDS
    -> (lastname      varchar(15)     not null,
    ->  firstname     varchar(15)     not null,
    ->  areacode      numeric(3)      null,
    ->  phone         varchar(9)      null,
    ->  st            char(2)         not null,
    ->  zip           varchar(5)      not null);
Query OK, 0 rows affected (0.044 sec)

MariaDB [19610dm]> describe FRIENDS;
+-----------+--------------+------+-----+---------+-------+
| Field     | Type         | Null | Key | Default | Extra |
+-----------+--------------+------+-----+---------+-------+
| lastname  | varchar(15)  | NO   |     | NULL    |       |
| firstname | varchar(15)  | NO   |     | NULL    |       |
| areacode  | decimal(3,0) | YES  |     | NULL    |       |
| phone     | varchar(9)   | YES  |     | NULL    |       |
| st        | char(2)      | NO   |     | NULL    |       |
| zip       | varchar(5)   | NO   |     | NULL    |       |
+-----------+--------------+------+-----+---------+-------+
6 rows in set (0.001 sec)
```

a.

```
insert into FRIENDS values
('BUNDY', 'AL', '100', '555-1111', 'IL', '22333');

insert into FRIENDS values
('MEZA', 'AL', '200', '555-2222', 'UK', NULL);

insert into FRIENDS values
('MERRICK', 'BUD', '300', '555-6666', 'CO', '80212');

insert into FRIENDS values
('MAST', 'JD', '381', '555-6767', 'LA', '23456');

insert into FRIENDS values
('BULHER', 'FERRIS', '345', '555-3223', 'IL', '23332');

insert into FRIENDS values
('PERKINS', 'ALTON', '911', '555-3116', 'CA', '95633');

insert into FRIENDS values
('BOSS', 'SIR', '204', '555-2345', 'CT', '95633');
```

```
MariaDB [19610dm]> SELECT * FROM FRIENDS;
+----------+-----------+----------+----------+----+-------+
| lastname | firstname | areacode | phone    | st | zip   |
+----------+-----------+----------+----------+----+-------+
| BUNDY    | AL        |      100 | 555-1111 | IL | 22333 |
| MERRICK  | BUD       |      300 | 555-6666 | CO | 80212 |
| MAST     | JD        |      381 | 555-6767 | LA | 23456 |
| BULHER   | FERRIS    |      345 | 555-3223 | IL | 23332 |
| PERKINS  | ALTON     |      911 | 555-3116 | CA | 95633 |
| BOSS     | SIR       |      204 | 555-2345 | CT | 95633 |
+----------+-----------+----------+----------+----+-------+
6 rows in set (0.000 sec)
```

b.

```
MariaDB [19610dm]> select * from FRIENDS
    -> where st = 'IL' and firstname = 'AL';
+----------+-----------+----------+----------+----+-------+
| lastname | firstname | areacode | phone    | st | zip   |
+----------+-----------+----------+----------+----+-------+
| BUNDY    | AL        |      100 | 555-1111 | IL | 22333 |
+----------+-----------+----------+----------+----+-------+
1 row in set (0.000 sec)
```

c.

Create 2 tables PART1 and PART2 containing PARTNO column

```
MariaDB [19610dm]> create table PART1
    -> (PARTNO int);
Query OK, 0 rows affected (0.012 sec)

MariaDB [19610dm]> create table PART2
    -> (PARTNO int);
Query OK, 0 rows affected (0.021 sec)
```

Now we try to insert value from 1-10 into the PART1 table and even number from 1-10 into the PART2 table

```
MariaDB [19610dm]> insert into PART1(PARTNO)
    -> VALUES(1),(2),(3),(4),(5),(6),(7),(8),(9),(10);
Query OK, 10 rows affected (0.003 sec)
Records: 10  Duplicates: 0  Warnings: 0

MariaDB [19610dm]> select * from PART1;
+--------+
| PARTNO |
+--------+
|      1 |
|      2 |
|      3 |
|      4 |
|      5 |
|      6 |
|      7 |
|      8 |
|      9 |
|     10 |
+--------+
10 rows in set (0.000 sec)
```

```
MariaDB [19610dm]> insert into PART2(PARTNO)
    -> VALUES(2),(4),(6),(8),(10);
Query OK, 5 rows affected (0.003 sec)
Records: 5  Duplicates: 0  Warnings: 0

MariaDB [19610dm]> select * from PART2;
+--------+
| PARTNO |
+--------+
|      2 |
|      4 |
|      6 |
|      8 |
|     10 |
+--------+
5 rows in set (0.000 sec)
```

Find out which PARTNO are in both PART1 and PART2 (supposed PART1 has more data than PART2) with INTERSECT function

```
MariaDB [19610dm]> select PARTNO from PART1
    -> INTERSECT
    -> select PARTNO from PART2;
+--------+
| PARTNO |
+--------+
|      2 |
|      4 |
|      6 |
|      8 |
|     10 |
+--------+
5 rows in set (0.000 sec)
```

d.

Create TEST table

```
MariaDB [19610dm]> create table TEST(a int);
Query OK, 0 rows affected (0.016 sec)

MariaDB [19610dm]> insert into TEST VALUES(5),(7),(10),(13),(15),(20),(24),(29),(31),(33);
Query OK, 10 rows affected (0.004 sec)
Records: 10  Duplicates: 0  Warnings: 0

MariaDB [19610dm]> select * from TEST;
+------+
| a    |
+------+
|    5 |
|    7 |
|   10 |
|   13 |
|   15 |
|   20 |
|   24 |
|   29 |
|   31 |
|   33 |
+------+
10 rows in set (0.000 sec)
```

What shorthand could you use instead of WHERE a >= 10 AND a <=30?

Use BETWEEN function

```
MariaDB [19610dm]> select a from TEST where a BETWEEN 10 AND 30;
+------+
| a    |
+------+
|   10 |
|   13 |
|   15 |
|   20 |
|   24 |
|   29 |
+------+
6 rows in set (0.000 sec)
```

e.

```
MariaDB [19610dm]> select firstname
    -> from FRIENDS
    -> where firstname = 'AL'
    -> and lastname = 'BULHER';
Empty set (0.000 sec)
```

f.

```
MariaDB [19610dm]> select firstname, st from FRIENDS
    -> where st = 'IL' and firstname = 'AL';
+-----------+----+
| firstname | st |
+-----------+----+
| AL        | IL |
+-----------+----+
1 row in set (0.000 sec)
```

g.

```
MariaDB [19610dm]> select concat(lastname, ',', firstname) as name,
    -> concat(areacode,'-',phone) as phone from FRIENDS
    -> where areacode like '3%';
+---------------+--------------+
| name          | phone        |
+---------------+--------------+
| MERRICK,BUD   | 300-555-6666 |
| MAST,JD       | 381-555-6767 |
| BULHER,FERRIS | 345-555-3223 |
+---------------+--------------+
3 rows in set (0.000 sec)
```

8. ANSI
9. Projection
10. C
11. Statements A, B, and C would fail to execute
12. Right justified
13. A and D
14. C (if the setting CONCAT_NULL_YIELDS_NULL is OFF)

    If CONCAT_NULL_YIELDS_NULL is ON, then adding a NULL value to a string will return a NULL value (which is answer B)

```
MariaDB [19610dm]> select * from TEST;
+--------+------------+
| salary | commission |
+--------+------------+
|   1000 |       NULL |
+--------+------------+
1 row in set (0.000 sec)

MariaDB [19610dm]> select salary + commission as compensation,
    -> 'Commission is'||commission as "Commission" from TEST;
+--------------+------------+
| compensation | Commission |
+--------------+------------+
|         NULL |       NULL |
+--------------+------------+
1 row in set, 2 warnings (0.000 sec)
```

15. D
16. A SQL query must have both a list of items following the keyword ***SELECT*** and a data source following the keyword ***FROM***.
17. False
18. Single quotes
19. 201
20. OR
21. A
22. NOT
23. End of the result set
24. DESC
25. All of the statements

- A column name or expression in the select list
- A column alias in the select list
- A number representing the column position in the select list
- A column found in the data source but not in the select list

26. A value for each row in the result set

27. UPPER

28. B

29. C

30. A and D

31. C

32. D

33. The multiplication operation (salary*12) will be evaluated first and then the subtraction (-400)

34. RR

35. Selection

36. C

37. D

38. A

39. C

40. C

41. D

42. C

43. B

44. C

45. B

46. A

47. B

48. C

49. C

50. D

51. D

52. C