MariaDB [university]> CREATE TABLE student(

-> student\_id INT PRIMARY KEY,

-> name VARCHAR(200),

-> dept VARCHAR(200)

-> );

MariaDB [university]> CREATE TABLE enrollments (

-> student\_id INT,

-> course\_id INT,

-> grade CHAR(3),

-> PRIMARY KEY(student\_id, course\_id),

-> FOREIGN KEY(student\_id) REFERENCES student(student\_id)

-> );

MariaDB [university]> INSERT INTO student (student\_id, name, dept)

-> VALUES

-> (1, 'Mr. A', 'CSE'),

-> (2, 'Mr. B', 'CSE'),

-> (3, 'Mr. C', 'CSE'),

-> (4, 'Mr. D', 'CSE'),

-> (5, 'Mr. E', 'CSE');

MariaDB [university]> INSERT INTO enrollments (student\_id, course\_id, grade)

-> VALUES

-> (1, 101, 'A+'),

-> (2, 102, 'A+'),

-> (3, 103, 'A'),

-> (5, 101, 'A');

MariaDB [university]> SELECT student\_id, name, course \_id

-> FROM student as s

-> INNER JOIN enrollments as e

-> ON s. student\_id = e.student\_id;

ERROR 1052 (23000): Column 'student\_id' in field list is ambiguous

MariaDB [university]> SELECT s.student\_id, s.name, e.course\_id

-> FROM student AS s

-> INNER JOIN enrollments AS e

-> ON s.student\_id = e.student\_id;

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

| student\_id | name | course\_id |

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

| 1 | Mr. A | 101 |

| 2 | Mr. B | 102 |

| 3 | Mr. C | 103 |

| 5 | Mr. E | 101 |

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

4 rows in set (0.000 sec)

MariaDB [university]> SELECT s.student\_id, s.name, e.course\_id

-> FROM student AS s

-> LEFT JOIN enrollments AS e

-> ON s.student\_id = e.student\_id;

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

| student\_id | name | course\_id |

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

| 1 | Mr. A | 101 |

| 2 | Mr. B | 102 |

| 3 | Mr. C | 103 |

| 4 | Mr. D | NULL |

| 5 | Mr. E | 101 |

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

5 rows in set (0.000 sec)

MariaDB [university]> SELECT s.student\_id, s.name, e.course\_id

-> FROM student AS s

-> RIGHT JOIN enrollments AS e

-> ON s.student\_id = e.student\_id;

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

| student\_id | name | course\_id |

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

| 1 | Mr. A | 101 |

| 2 | Mr. B | 102 |

| 3 | Mr. C | 103 |

| 5 | Mr. E | 101 |

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

4 rows in set (0.000 sec)

MariaDB [university]> SELECT s.student\_id, s.name, e.course\_id

-> FROM student AS s

-> LEFT JOIN enrollments AS e

-> ON s.student\_id = e.student\_id

-> UNION

-> SELECT s.student\_id, s.name, e.course\_id

-> FROM student AS s

-> RIGHT JOIN enrollments AS e

-> ON s.student\_id = e.student\_id;

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

| student\_id | name | course\_id |

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

| 1 | Mr. A | 101 |

| 2 | Mr. B | 102 |

| 3 | Mr. C | 103 |

| 4 | Mr. D | NULL |

| 5 | Mr. E | 101 |

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

5 rows in set (0.001 sec)

MariaDB [university]> SELECT \* FROM student;

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

| student\_id | name | dept |

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

| 1 | Mr. A | CSE |

| 2 | Mr. B | CSE |

| 3 | Mr. C | CSE |

| 4 | Mr. D | CSE |

| 5 | Mr. E | CSE |

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

5 rows in set (0.000 sec)

MariaDB [university]> SELECT \* FROM enrollments;

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

| student\_id | course\_id | grade |

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

| 1 | 101 | A+ |

| 2 | 102 | A+ |

| 3 | 103 | A |

| 5 | 101 | A |

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

4 rows in set (0.000 sec)

MariaDB [university]> SELECT s.name, e.course\_id

-> FROM student AS s

-> INNER JOIN enrollments AS e

-> ON s.student\_id = e.student\_id

-> WHERE e.course\_id = 101;

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

| name | course\_id |

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

| Mr. A | 101 |

| Mr. E | 101 |

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

MariaDB [university]> SELECT s.student\_id, s.name, e.course\_id

-> FROM student AS s

-> LEFT JOIN enrollments AS e

-> ON s.student\_id = e.student\_id

-> WHERE e.course\_id is NULL;

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

| student\_id | name | course\_id |

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

| 4 | Mr. D | NULL |

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