

Output:

```
mysql> CREATE TABLE employee(  
    -> id int primary key,  
    -> name varchar(50),  
    -> did int);  
Query OK, 0 rows affected (0.08 sec)
```

Output:

```
mysql> CREATE TABLE department(  
    -> id int primary key,  
    -> dname varchar(50));  
Query OK, 0 rows affected (0.07 sec)
```

```
mysql> SHOW TABLES;  
+-----+  
| Tables_in_company |  
+-----+  
| department        |  
| employee          |  
+-----+
```

Output:

```
mysql> INSERT INTO employee(  
-> id,name,did)  
-> VALUES  
-> (101,"Dolindra",10),  
-> (102,"abcd",50),  
-> (105,"efgh",40),  
-> (108,"ijkl",10),  
-> (111,"mnop",60),  
-> (112,"qrst",60),  
-> (118,"uvwxyz",40);  
Query OK, 7 rows affected (0.01 sec)  
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> SELECT * FROM employee;  
+-----+-----+-----+  
| id | name | did |  
+-----+-----+-----+  
| 101 | Dolindra | 10 |  
| 102 | abcd | 50 |  
| 105 | efgh | 40 |  
| 108 | ijkl | 10 |  
| 111 | mnop | 60 |  
| 112 |qrst | 60 |  
| 118 | uvwxyz | 40 |  
+-----+-----+-----+  
7 rows in set (0.00 sec)
```

Output:

```
mysql> INSERT INTO department(  
-> id,dname)  
-> VALUES  
-> (10,"HR"),  
-> (40,"Sales"),  
-> (50,"Marketing"),  
-> (60,"Finance");  
Query OK, 4 rows affected (0.01 sec)  
Records: 4  Duplicates: 0  Warnings: 0
```

```
mysql> SELECT * FROM department;  
+----+-----+  
| id | dname   |  
+----+-----+  
| 10 | HR      |  
| 40 | Sales   |  
| 50 | Marketing |  
| 60 | Finance |  
+----+-----+  
4 rows in set (0.00 sec)
```

Output:

```
mysql> ALTER TABLE employee ADD FOREIGN KEY (did) REFERENCES department(id)
      -> ON DELETE NO ACTION
      -> ON UPDATE NO ACTION;
Query OK, 7 rows affected (0.23 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> DELETE FROM department WHERE id = 40;
ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key
CONSTRAINT `employee_ibfk_1` FOREIGN KEY (`did`) REFERENCES `department`
```

```
mysql> UPDATE department SET id=70 WHERE id=60;
ERROR 1451 (23000): Cannot delete or update a parent row: a foreign key
CONSTRAINT `employee_ibfk_1` FOREIGN KEY (`did`) REFERENCES `department`
```

```
mysql> drop table employee;
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> drop table department;
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> show tables;
Empty set (0.00 sec)
```

```
mysql> CREATE TABLE employee( id int primary key, name varchar(50), did int);
Query OK, 0 rows affected (0.08 sec)
```

```
mysql> CREATE TABLE department( id int primary key, dname varchar(50));
Query OK, 0 rows affected (0.07 sec)
```

```
mysql> INSERT INTO employee( id,name,did) VALUES (101,"Dolindra",10), (102,"abcd",50), (105,"efgh",40), (108,"ijkl",10), (111,"mnop",60), (112,"qrst",60), (118,"uvwxyz",40);
Query OK, 7 rows affected (0.01 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> INSERT INTO department( id,dname) VALUES (10,"HR"), (40,"Sales"), (50,"Marketing"), (60,"Finance");
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

```
mysql> SELECT * FROM employee;
```

id	name	did
101	Dolindra	10
102	abcd	50
105	efgh	40
108	ijkl	10
111	mnop	60
112	qrst	60
118	uvwxyz	40

7 rows in set (0.00 sec)

```
mysql> SELECT * FROM department;
```

id	dname
10	HR
40	Sales
50	Marketing
60	Finance

```
mysql> ALTER TABLE employee
```

```
-> ADD CONSTRAINT fk_id
```

```
-> FOREIGN KEY(did)REFERENCES department(id)
```

```
-> ON DELETE SET NULL
```

```
-> ;
```

```
Query OK, 7 rows affected (0.20 sec)
```

```
Records: 7 Duplicates: 0 Warnings: 0
```

Output:

```
mysql> DELETE FROM department WHERE id = 40;  
Query OK, 1 row affected (0.02 sec)
```

```
mysql> SELECT * FROM department;
```

```
+-----+-----+  
| id | dname |  
+-----+-----+  
| 10 | HR |  
| 50 | Marketing |  
| 60 | Finance |  
+-----+-----+  
3 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM employee;
```

```
+-----+-----+-----+  
| id | name | did |  
+-----+-----+-----+  
| 101 | Dolindra | 10 |  
| 102 | abcd | 50 |  
| 105 | efgh | NULL |  
| 108 | ijkl | 10 |  
| 111 | mnop | 60 |  
| 112 | qrst | 60 |  
| 118 | uvwxyz | NULL |  
+-----+-----+-----+  
7 rows in set (0.00 sec)
```

```
mysql> ALTER TABLE employee DROP FOREIGN KEY fk_id;
Query OK, 0 rows affected (0.05 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

Output:

```
mysql> ALTER TABLE employee ADD CONSTRAINT
-> fk_id FOREIGN KEY(did)
-> REFERENCES department(id)
-> ON UPDATE CASCADE;
Query OK, 7 rows affected (0.31 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> SELECT * FROM department;
+----+-----+
| id |  dname  |
+----+-----+
| 10 | HR      |
| 50 | Marketing |
| 60 | Finance |
+----+-----+
3 rows in set (0.00 sec)
```

Output:

```
mysql> UPDATE department SET id = 80 WHERE id = 60;  
Query OK, 1 row affected (0.03 sec)  
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> SELECT * FROM department;
```

id	dname
10	HR
50	Marketing
80	Finance

3 rows in set (0.01 sec)

```
mysql> SELECT * FROM employee;
```

id	name	did
101	Dolindra	10
102	abcd	50
105	efgh	NULL
108	ijkl	10
111	mnop	80
112	qrst	80
118	uvwxyz	NULL

7 rows in set (0.00 sec)

```
mysql> ALTER TABLE employee DROP FOREIGN KEY fk_id;  
Query OK, 0 rows affected (0.09 sec)  
Records: 0  Duplicates: 0  Warnings: 0
```



```
mysql> ALTER TABLE employee ADD CONSTRAINT
-> fk_id FOREIGN KEY(did)
-> REFERENCES department(id)
-> ON DELETE CASCADE;
Query OK, 7 rows affected (0.60 sec)
Records: 7 Duplicates: 0 Warnings: 0
```

```
mysql> DELETE FROM department WHERE id = 80;
Query OK, 1 row affected (0.02 sec)
```

```
mysql> SELECT * FROM department;
+-----+-----+
| id | dname      |
+-----+-----+
| 10 | HR         |
| 50 | Marketing  |
+-----+-----+
2 rows in set (0.00 sec)

mysql> SELECT * FROM employee;
+-----+-----+-----+
| id  | name      | did  |
+-----+-----+-----+
| 101 | Dolindra  | 10   |
| 102 | abcd      | 50   |
| 105 | efgh      | NULL |
| 108 | ijk      | 10   |
| 118 | uvwxyz    | NULL |
+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> alter table employee drop foreign key fk_id;
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> ALTER TABLE employee
-> ADD CONSTRAINT fk_id
-> FOREIGN KEY(did) REFERENCES department(id)
-> ON UPDATE SET NULL;
Query OK, 5 rows affected (0.27 sec)
Records: 5 Duplicates: 0 Warnings: 0
```

```
mysql> UPDATE department SET id = 20 WHERE id = 10;
Query OK, 1 row affected (0.02 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM department;
+----+-----+
| id | dname      |
+----+-----+
| 20 | HR          |
| 50 | Marketing   |
+----+-----+
2 rows in set (0.00 sec)
```

```
mysql> SELECT * FROM employee;
+----+-----+-----+
| id  | name      | did  |
+----+-----+-----+
| 101 | Dolindra  | NULL |
| 102 | abcd      | 50   |
| 105 | efgh      | NULL |
| 108 | ijkl      | NULL |
| 118 | uvwxyz    | NULL |
+----+-----+-----+
5 rows in set (0.00 sec)
```