```
C)
  SHOW PROCESSLIST;
  SET GLOBAL event_scheduler = ON;
  CREATE EVENT increment budget
     ON SCHEDULE EVERY 1 MINUTE DO
      UPDATE University.department SET budget = 1.05 * budget;
  SHOW EVENTS\G;
  select * from department;
MariaDB [University]> MariaDB [University]> Query OK, 0 rows affected (0.00 sec)
MariaDB [University]> MariaDB [University]>
                                            ->
                                                   -> Query OK, 0 rows affected (0.00 sec)
Db: University
               Name: increment_budget
            Definer: root@localhost
          Time zone: SYSTEM
               Type: RECURRING
         Execute at: NULL
      Interval value: 1
      Interval field: MINUTE
             Starts: 2018-02-15 14:34:20
               Ends: NULL
             Status: ENABLED
         Originator: 1
character set client: utf8mb4
collation_connection: utf8mb4_general_ci
 Database Collation: utf8mb4_general_ci
1 row in set (0.00 sec)
ERROR: No query specified
^GMariaDB [University]> MariaDB [University]> +-----++-----++-----+
| dept_name | building | budget
| Biology
           | Watson | 99225.00
| Comp. Sci. | Taylor | 110250.00
| Dance | Watson | 41688.29
| Elec. Eng. | Taylor | 93712.50 |
| Finance | Painter | 132300.00 |
| History | Painter | 55125.00 |
| Music | Packard | 88200.00 |
| Physics | Watson | 77175.00 |
8 rows in set (0.00 sec)
```

```
select * fromALTER EVENT test_event ON SCHEDULE EVERY '2:3' DAY_HOUR; department;
MariaDB [University]> +-----+
| dept_name | building | budget |
+----+
| Biology | Watson | 99225.00 |
| Comp. Sci. | Taylor | 110250.00 |
+----+
8 rows in set (0.00 sec)
MariaDB [University]> MariaDB [University]> MariaDB [University]> ERROR: No query specified
select * from department;
^GMariaDB [University]> +-----+
| dept_name | building | budget |
+----
| Biology | Watson | 104186.25 |
| Comp. Sci. | Taylor | 115762.50
| Dance | Watson | 43772.70
| Elec. Eng. | Taylor | 98398.13
| Finance | Painter | 138915.00 |
+----+
8 rows in set (0.00 sec)
    ALTER EVENT increment budget
    ON SCHEDULE EVERY 5 MINUTE
    STARTS CURRENT TIMESTAMP
    ENDS CURRENT TIMESTAMP + INTERVAL 5 MINUTE
    DO UPDATE University.department SET budget = budget + 100;
 SHOW EVENTS\G;
 Db: University
             Name: increment_budget
          Definer: root@localhost
         Time zone: SYSTEM
             Type: RECURRING
        Execute at: NULL
     Interval value: 1
     Interval field: MINUTE
           Starts: 2018-02-15 14:53:27
             Ends: 2018-02-15 14:58:27
           Status: ENABLED
        Originator: 1
 character_set_client: utf8mb4
 collation_connection: utf8mb4_general_ci
  Database Collation: utf8mb4_general_ci
 1 row in set (0.00 sec)
 ERROR: No query specified
```

D)

```
show global variables like 'autocommit';
MariaDB [University]> +-----+
| Variable_name | Value |
+-----+
| autocommit | ON |
+-----+
1 row in set (0.00 sec)
```

```
SET AUTOCOMMIT=0;
MariaDB [University] > Query OK, 0 rows affected (0.00 sec)
UPDATE University.department SET budget = budget + 0.01 WHERE dept_name='Physics';
MariaDB [University] > Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
SELECT * FROM department;
MariaDB [University]> +-----
| dept_name | building | budget |
+----+
| Biology | Watson | 99725.00 |
| Comp. Sci. | Taylor | 110750.00 |
| Dance | Watson | 42188.29 |
| Elec. Eng. | Taylor | 94212.50 |
8 rows in set (0.00 sec)
ROLLBACK;
MariaDB [University] > Query OK, 0 rows affected (0.05 sec)
SELECT * FROM department;
MariaDB [University]> +-----+
| dept name | building | budget |
+----+
| Biology | Watson | 99725.00 |
| Comp. Sci. | Taylor | 110750.00 |
| Dance | Watson | 42188.29 |
| Elec. Eng. | Taylor | 94212.50 |
| History | Painter | 55625.00 |
+----+
8 rows in set (0.00 sec)
```

```
show SESSION variables like 'autocommit';
MariaDB [University]> +-----+
| Variable_name | Value |
+-----+
| autocommit | OFF |
+----++
1 row in set (0.00 sec)
```

```
UPDATE University.department SET budget = budget + 0.01 WHERE dept_name='Physics';
MariaDB [University]> Query OK, 1 row affected (0.00 sec)
Rows matched: 1 Changed: 1 Warnings: 0
MariaDB [University]> Query OK, 0 rows affected (0.04 sec)
SELECT * FROM department;
MariaDB [University]> +-----
| dept name | building | budget |
+------
| Biology | Watson | 99725.00 |
| Comp. Sci. | Taylor | 110750.00 |
| Dance | Watson | 42188.29
| Elec. Eng. | Taylor | 94212.50
+-----
8 rows in set (0.00 sec)
 CREATE TABLE budget_only (
 budget INT
 MariaDB [University]> MariaDB [University]> -> -> Query OK, 0 rows affected (0.16 sec)
 ROLLBACK;
 MariaDB [University]> Query OK, 0 rows affected (0.00 sec)
 show tables;
 MariaDB [University]> +----+
 | Tables_in_University |
 | advisor
 | budget_only
 | classroom
 course
 | department
 instructor
 | prereq
 section
 | student
 | takes
 teaches
 | time slot
 | tot_C
 13 rows in set (0.00 sec)
1:**- *SQL* Bot L2427 (SQLi[MySQL]:run)
E)
```

```
create table inst dept AS
( SELECT * FROM instructor
           NATURAL JOIN
           department
^GMariaDB [University]> MariaDB [University]> -> -> -> Query OK, 12 rows affecte ₽
⊈d (0.26 sec)
Records: 12 Duplicates: 0 Warnings: 0
select * from inst_dept;
MariaDB [University]> +-----+
| dept_name | ID | name | salary | building | budget | | | | | | | |
| Comp. Sci. | 10101 | Srinivasan | 68250.00 | Taylor | 110750.00 |
| Finance | 12121 | Wu | 90000.00 | Painter | 132800.00 |
| Music | 15151 | Mozart | 42000.00 | Packard | 88700.00 |
| Physics | 22222 | Einstein | 95000.00 | Watson | 77675.01 |
| History | 32343 | El Said | 63000.00 | Painter | 55625.00 |
| Physics | 33456 | Gold | 87000.00 | Watson | 77675.01 |
| Comp. Sci. | 45565 | Katz | 75000.00 | Taylor | 110750.00 |
| Comp. Sci. | 45565 | Katz | 75000.00 | Taylor | 110750.00 | | History | 58583 | Califieri | 65100.00 | Painter | 55625.00 |
| Finance | 76543 | Singh | 80000.00 | Painter | 132800.00 |
| Biology | 76766 | Crick | 72000.00 | Watson | 99725.00 |
| Comp. Sci. | 83821 | Brandt | 92000.00 | Taylor | 110750.00 |
| Elec. Eng. | 98345 | Kim | 80000.00 | Taylor | 94212.50 |
 12 rows in set (0.00 sec)
            --- ,----,
DELIMITER //
 CREATE TRIGGER budget_update
 before update ON inst_dept
FOR EACH ROW
BEGIN
     IF new.budget <> old.budget
         BEGIN
          UPDATE department SET budget = new.budget WHERE building = new.building;
     END IF:
END;//
DELIMITER ;
MariaDB [University]> MariaDB [University]>
 -> -> Query OK, 0 rows affected (0.08 sec)
1.**- *501* Rot | 1018 (SOLi[MySOL]:rup)
  DELIMITER //
  CREATE TRIGGER building update
  before update ON inst_dept
  FOR EACH ROW
  BEGIN
      IF new.building <> old.building
          THEN
          BEGIN
           UPDATE department SET building = new.building WHERE dept_name = new.dept_name;
          END:
      END IF;
  END;//
  DELIMITER ;
 MariaDB [University] > MariaDB [University] > MariaDB [University] >
                                                                                                                        - 5
```

F)

```
SET profiling = 1;
MariaDB [University]> MariaDB [University]> Query OK, 0 rows affected (0.00 sec)
use University;
MariaDB [University]> MariaDB [University]> Database changed
select dept_name from department where budget>50000;
MariaDB [University]> MariaDB [University]> +-----
| dept_name |
+-----
| Biology
| Comp. Sci.
| Elec. Eng.
| Finance
| History
I Music
| Physics
7 rows in set (0.00 sec)
SHOW PROFILES;
MariaDB [University]> +-----
| Query_ID | Duration | Query
| 1 | 0.00017528 | SELECT DATABASE()
       2 | 0.00042376 | select dept_name from department where budget>50000 |
2 rows in set (0.00 sec)
SHOW PROFILE;
MariaDB [University]> +-----+
| Status
                          | Duration |
 +-----
 starting
                           0.000029
Waiting for query cache lock | 0.000006
 | init
                            0.000005
 | checking query cache for query | 0.000052
 | checking permissions | 0.000009
                           0.000026
 | Opening tables
 After opening tables
                          0.000009
                           0.000007
 I System lock
 | Table lock
 | Waiting for query cache lock | 0.000022
 | init
                            1 0.000026
 | optimizing
                            0.000015
 | statistics
                           0.000021
                           0.000024
 | preparing
 I executing
 | Sending data
                           0.000075
                          0.000008
 I end
| Waiting for query cache lock | 0.000007 |
 | updating status
                            0.000004
 | storing result in query cache | 0.000007 |
| cleaning up
                           0.000005
28 rows in set (0.00 sec)
```

```
DELIMITER //
CREATE FUNCTION raise_by_ten (num FLOAT)
  returns FLOAT
  BEGIN
  declare next_num FLOAT;
  SET next_num = num + 10;
  return next_num;
  END;//
  DELIMITER ;
 MariaDB [University]> MariaDB [University]> MariaDB [University]> -> ->
       -> Query OK, 0 rows affected (0.02 sec)
 9>
 select raise_by_ten(100);
 MariaDB [University]> +-----
 | raise_by_ten(100) |
 110
 1 row in set (0.01 sec)
create table store (
item_name VARCHAR(50),
quantity INT,
PRIMARY KEY(item_name)
);
MariaDB [canteen]> MariaDB [canteen]> -> -> -> Query OK, 0 rows affected (0.13 s ₽
ec)
CREATE TABLE cart (
item_name VARCHAR(50),
quantity INT,
price FLOAT,
status ENUM('old', 'new'),
PRIMARY KEY(item_name)
MariaDB [canteen]>
                                              -> -> -> Query OK, 0 rows affecte ₽
d (0.11 sec)
1:**- *SOL* Bot L317 (SOLi[MvSOL]:run)
```

```
DELIMITER //
CREATE TRIGGER trg order1
before insert ON store
FOR EACH ROW
BEGIN
 IF NEW.quantity = 0 THEN
       UPDATE cart SET quantity = raise_by_ten(quantity) where item_name=new.item_name and status= >
⊆'new';
        UPDATE cart SET status = 'new' where item_name=new.item_name and status='old';
        UPDATE cart SET price = quantity*( select amount FROM price where
        id = (select id from menu where name = NEW.item_name))
       where item_name=new.item_name;
  END IF;
END; //
DELIMITER :
DELIMITER //
CREATE TRIGGER trg order2
before update ON store
FOR EACH ROW
 IF NEW.quantity = 0 THEN
       UPDATE cart SET quantity = raise_by_ten(quantity) where item_name=new.item_name and status= >
new;
        UPDATE cart SET status = 'new' where item_name=new.item_name and status='old';
        UPDATE cart SET price = quantity*( select amount FROM price where
        id = (select id from menu where name = NEW.item_name))
        where item_name=new.item_name;
 END IF;
END; //
DELIMITER ;
MariaDB [canteen]> MariaDB [canteen]> MariaDB [canteen]>
              -> -> Ouery OK, 0 rows affected (0.09 sec)
MariaDB [canteen]> MariaDB [canteen]> MariaDB [canteen]> MariaDB [canteen]>
                                                                -> Query OK, 0 rows affected ₽
⊆(0.08 sec)
п
                Dat 1045 (COL: [M.:COL]. -....)
insert into store values ("test", 1);
^GMariaDB [canteen]> MariaDB [canteen]> MariaDB [canteen]> MariaDB [canteen]> Query OK, 1 row affec ₽
≰ted (0.04 sec)
insert into cart values ('test', 2, 2.00, 'new');
MariaDB [canteen] > Query OK, 1 row affected (0.04 sec)
update store set quantity=0 where item_name='test';
MariaDB [canteen]> MariaDB [canteen]> MariaDB [canteen]> Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0
select * from cart;
MariaDB [canteen]> +-----+
| item_name | quantity | price | status |
+-----
| test | 12 | 24 | new |
1 row in set (0.00 sec)
```