

SQL LAB – 4

Q)1

Ans=

```
MySQL 8.0 Command Line Cli
mysql> use classicmodels;
Database changed
mysql> desc orderdetails;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| orderNumber | int | NO | PRI | NULL | |
| productCode | varchar(15) | NO | PRI | NULL | |
| quantityOrdered | int | NO | | NULL | |
| priceEach | decimal(10,2) | NO | | NULL | |
| orderLineNumber | smallint | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> Create view total_sales_per_order as
-> select orderNumber, Sum(quantityOrdered*priceEach) as Total_sales From orderdetails
-> group by orderNumber;
Query OK, 0 rows affected (0.01 sec)

mysql> desc total_sales_per_order;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| orderNumber | int | NO | | NULL | |
| Total_sales | decimal(42,2) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> select * from total_sales_per_order;
+-----+-----+
| orderNumber | Total_sales |
+-----+-----+
| 10100 | 10223.83 |
| 10101 | 10549.01 |
| 10102 | 5494.78 |
| 10103 | 50218.95 |
| 10104 | 40206.20 |
| 10105 | 53959.21 |
| 10106 | 52151.81 |
| 10107 | 22292.62 |
+-----+-----+
```

Q2)

Ans=

```
MySQL 8.0 Command Line Cli
mysql> create view High_avg as
-> select productName from products
-> where buyPrice>(select avg(buyPrice) from Products);
Query OK, 0 rows affected (0.01 sec)

mysql> desc High_avg;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| productName | varchar(70) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select * from High_avg;
+-----+
| productName |
+-----+
| 1952 Alpine Renault 1300 |
| 1996 Moto Guzzi 1100i |
| 2003 Harley-Davidson Eagle Drag Bike |
| 1972 Alfa Romeo GTA |
| 1962 LanciaA Delta 16V |
| 1968 Ford Mustang |
| 2001 Ferrari Enzo |
| 1958 Setra Bus |
| 2002 Suzuki XRE0 |
| 1969 Corvair Monza |
| 1968 Dodge Charger |
| 1969 Ford Falcon |
| 1957 Chevy Pickup |
| 1969 Dodge Charger |
| 1948 Ford Pickup Truck |
| 1993 Mazda RX-7 |
| 1937 Lincoln Berline |
| 1965 Aston Martin DB5 |
| 1988s Black Hawk Helicopter |
| 1917 Grand Touring Sedan |
| 1995 Honda Civic |
| 1998 Chrysler Plymouth Prowler |
| 1964 Mercedes Tour Bus |
+-----+
```

Q3)

Ans= Part 1,

```
MySQL 8.0 Command Line Cli x + v
mysql> create view Customer_info as
-> select customerName,city,state,postalCode,country from customers
-> order by customerName;
Query OK, 0 rows affected (0.01 sec)

mysql> desc Alphabetical_names;
ERROR 1146 (42582): Table 'classicmodels.alphabetical_names' doesn't exist
mysql> desc Customer_info;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| customerName | varchar(50) | NO | | NULL | |
| city | varchar(50) | NO | | NULL | |
| state | varchar(50) | YES | | NULL | |
| postalCode | varchar(15) | YES | | NULL | |
| country | varchar(50) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> select * from customer_info;
+-----+-----+-----+-----+-----+
| customerName | city | state | postalCode | country |
+-----+-----+-----+-----+-----+
| Alpha Cognac | Toulouse | NULL | 31000 | France |
| American Souvenirs Inc | New Haven | CT | 97823 | USA |
| Amica Models & Co. | Torino | NULL | 10100 | Italy |
| ANG Resellers | Madrid | NULL | 28001 | Spain |
| Anna's Decorations, Ltd | North Sydney | NSW | 2060 | Australia |
| Anton Designs, Ltd. | Madrid | NULL | 28023 | Spain |
| Asian Shopping Network, Co | Singapore | NULL | 038988 | Singapore |
| Asian Treasures, Inc. | Cork | Co. Cork | NULL | Ireland |
| Atelier graphique | Nantes | NULL | 44000 | France |
| Australian Collectables, Ltd | Glen Waverly | Victoria | 3150 | Australia |
| Australian Collectors, Co. | Melbourne | Victoria | 3004 | Australia |
| Australian Gift Network, Co | South Brisbane | Queensland | 4101 | Australia |
| Auto Associds & Cie. | Versailles | NULL | 78000 | France |
| Auto Canal+ Petit | Paris | NULL | 75016 | France |
| Auto-Moto Classics Inc. | Brickhaven | MA | 58339 | USA |
| AV Stores, Co. | Manchester | NULL | EC2 5NT | UK |
| Baane Mini Imports | Stavern | NULL | 4110 | Norway |
+-----+-----+-----+-----+-----+
122 rows in set (0.00 sec)
```

Part 2,

```
MySQL 8.0 Command Line Cli x + v
Stuttgart Collectable Exchange | Stuttgart | NULL | 70563 | Germany |
Stylish Desk Decors, Co. | London | NULL | WX3 6FW | UK |
Suominen Souvenirs | Espoo | NULL | FIN-02271 | Finland |
Super Scale Inc. | New Haven | CT | 97823 | USA |
Technics Stores Inc. | Burlingame | CA | 94217 | USA |
Tekni Collectables Inc. | Newark | NJ | 94019 | USA |
The Sharp Gifts Warehouse | San Jose | CA | 94217 | USA |
Tokyo Collectables, Ltd | Minato-ku | Tokyo | 106-0032 | Japan |
Toms Spezialitäten, Ltd | Köln | NULL | 50739 | Germany |
Toys of Finland, Co. | Helsinki | NULL | 21240 | Finland |
Toys4GrownUps.com | Pasadena | CA | 90003 | USA |
UK Collectables, Ltd. | Liverpool | NULL | WX1 6LT | UK |
Vida Sport, Ltd | Genève | NULL | 1203 | Switzerland |
Vitachrome Inc. | NYC | NY | 10022 | USA |
Volvo Model Replicas, Co | Luleå | NULL | S-958 22 | Sweden |
Warburg Exchange | Aachen | NULL | 52066 | Germany |
West Coast Collectables Co. | Burbank | CA | 94019 | USA |
+-----+-----+-----+-----+-----+
122 rows in set (0.00 sec)

mysql>
```

Q4)

Ans=

```
mysql> delimiter /
mysql> create procedure Office_country( IN countryName varchar(50))
-> Begin
-> select officeCode, Country from offices
-> where country=countryName;
-> End/
Query OK, 0 rows affected (0.01 sec)

mysql> desc office_country;
->
-> ;
-> desc office_country('USA');
-> call office_country('USA');
-> /
ERROR 1146 (42502): Table 'classicmodels.office_country' doesn't exist
mysql> desc office_country('USA')/
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '('
'USA')' at line 1
mysql> desc office_country/
ERROR 1146 (42502): Table 'classicmodels.office_country' doesn't exist
mysql> call office_country('USA')/
+-----+
| officeCode | Country |
+-----+
| 1          | USA    |
| 2          | USA    |
| 3          | USA    |
+-----+
3 rows in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

mysql> delimiter ;
mysql> call office_country('France');
+-----+
| officeCode | Country |
+-----+
| 4          | France  |
+-----+
```

Q5)

Ans =

```
mysql> call total_shipped('shipped');
-> 0
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'd
elimiter;delimiter ;call total_shipped('shipped')' at line 1
mysql> delimiter ;
mysql> call total_shipped('shipped');
ERROR 1318 (42000): Incorrect number of arguments for PROCEDURE classicmodels.total_shipped; expected 2, got 1
mysql> delimiter /
mysql> create procedure Total_shipped(IN All_shipped varchar(50))
-> /
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ''
at line 1
mysql> drop Total_shipped/
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'T
otal_shipped' at line 1
mysql> delimiter @
mysql> create procedure Totalshipped(IN All_shipped varchar(50))
-> Begin
-> select count(*) as status from orders
-> where status=All_shipped;
-> end@
Query OK, 0 rows affected (0.01 sec)

mysql> delimiter ;
mysql> call Totalshipped('Shipped');
+-----+
| status |
+-----+
| 303    |
+-----+
1 row in set (0.00 sec)

Query OK, 0 rows affected (0.01 sec)

mysql>
```

Q6)

Ans=

```
MySQL 8.0 Command Line Cli x + v
mysql> delimiter ;
mysql> call custlevel(112);
ERROR 1318 (42000): Incorrect number of arguments for PROCEDURE classicmodels.custlevel; expected 2, got 1
mysql> dropcustlevel;
drop custlevel;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'c
ustlevel' at line 1
mysql> drop custlevel;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'c
ustlevel' at line 1
mysql> delimiter /
mysql> create procedure showcustomerlevel(IN customerNumber int,OUT customerlevel varchar(20))
-> begin
-> declare creditlimit decimal (10,2);
-> if creditlimit>50000 then set customerlevel='PLATINIUM';
-> elseif creditlimit<=50000 and creditlimit>10000 then set customerlevel='GOLD';
-> else set customerlevel='SILVER';
-> end if;
-> end/
Query OK, 0 rows affected (0.00 sec)

mysql> delimiter ;
mysql> call showcustomerlevel(112);
ERROR 1318 (42000): Incorrect number of arguments for PROCEDURE classicmodels.showcustomerlevel; expected 2, got 1
mysql> call showcustomerlevel(112,@level);
Query OK, 0 rows affected (0.00 sec)

mysql> select @level
-> select @level;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 's
elect @level' at line 2
mysql> select @level;
+-----+
| @level |
+-----+
| SILVER |
+-----+
1 row in set (0.00 sec)

mysql>
```

Q7)

Ans=

```
MySQL 8.0 Command Line Cli x + v
mysql> call getshipping(151,0e);
ERROR 1054 (42S22): Unknown column 'custcountry' in 'field list'
mysql> delete procedure getshipping;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'p
rocedure getshipping' at line 1
mysql> delimiter /
-> create procedure get_shipping (IN custno int, OUT ship varchar(50))
-> begin
-> declare custcountry varchar (50);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'd
elimiterv /create procedure get_shipping (IN custno int, OUT ship varchar(50))
' at line 1
mysql> delimiter /
mysql> create procedure get_shipping (IN custno int, OUT ship varchar(50))
-> begin
-> declare custcountry varchar (50);
-> select country into custcountry from customers
-> where customerNumber=custno;
-> case(custcountry)
-> when custcountry='USA' then set ship = '2day shipping';
-> when custcountry='Canada' then set ship = '3day shipping';
-> else
-> set ship = '5day shipping';
-> end case;
-> end/
Query OK, 0 rows affected (0.01 sec)

mysql> delimiter ;
mysql> call get_shipping(125,@t);
Query OK, 1 row affected (0.00 sec)

mysql> select @t;
+-----+
| @t |
+-----+
| 2day shipping |
+-----+
1 row in set (0.00 sec)

mysql>
```

Q9)

Ans=

```
MySQL 8.0 Command Line Cli x + v
-> DECLARE ship_time VARCHAR(20);
-> SELECT
-> CASE
-> WHEN country = 'USA' THEN '2-day shipping'
-> WHEN country = 'Canada' THEN '3-day shipping'
-> ELSE '5-day shipping'
-> END INTO ship_time
-> FROM customers
-> WHERE customerNumber = customernumber;
-> SELECT ship_time AS shipping_time_for_customer;
-> END //
Query OK, 0 rows affected (0.01 sec)

mysql> call shipping_time(125)/
ERROR 1172 (42000): Result consisted of more than one row
mysql> call shipping_time(125,0t)/
ERROR 1318 (42000): Incorrect number of arguments for PROCEDURE classicmodels.shipping_time; expected 1, got 2
mysql> CREATE TABLE employees_audit (
-> id INT PRIMARY KEY AUTO_INCREMENT,
-> employeeenumber INT NOT NULL,
-> lastname VARCHAR(50) NOT NULL,
-> changedate DATETIME,
-> action VARCHAR(50))/
Query OK, 0 rows affected (0.03 sec)

mysql> desc employees_audit/
ERROR 1146 (42S02): Table 'classicmodels.employees_audit' doesn't exist
mysql> desc employees_audit/
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int  | NO   | PRI | NULL    | auto_increment |
| employeeenumber | int  | NO   |     | NULL    |                |
| lastname | varchar(50) | NO   |     | NULL    |                |
| changedate | datetime | YES  |     | NULL    |                |
| action | varchar(50) | YES  |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

SQL – 6

Q1)

Ans=

```
MySQL 8.0 Command Line Cli x + v
mysql> CREATE TABLE Workcenters (
  -> id INT PRIMARY KEY AUTO INCREMENT,
  -> name VARCHAR(255) NOT NULL,
  -> capacity INT NOT NULL);
Query OK, 0 rows affected (0.02 sec)

mysql> CREATE TABLE WorkcenterStats(totalcapacity INT NOT NULL);
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO WorkcenterStats (totalcapacity) VALUES (7);
Query OK, 1 row affected (0.01 sec)

mysql> DELIMITER /
mysql> CREATE TRIGGER before_workcenter
  -> BEFORE INSERT ON Workcenters
  -> FOR EACH ROW
  -> BEGIN
  -> DECLARE rowCount INT;
  -> SELECT COUNT(*) INTO rowCount FROM WorkcenterStats;
  -> IF rowCount = 1 THEN
  -> UPDATE WorkcenterStats
  -> SET totalcapacity = totalcapacity + NEW.capacity;
  -> ELSE
  -> INSERT INTO WorkcenterStats (totalcapacity) VALUES (NEW.capacity);
  -> END IF;
  -> END /
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> INSERT INTO Workcenters (name, capacity) VALUES ('Workcenter1', 10);
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO Workcenters (name, capacity) VALUES ('Workcenter2', 15);
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM WorkcenterStats;
+-----+
| totalcapacity |
+-----+
|             32 |
+-----+
```

Q2)

Ans=

```
MySQL 8.0 Command Line Cli x + v
mysql> CREATE TABLE Members (id INT PRIMARY KEY AUTO_INCREMENT,
  -> name VARCHAR(50) NOT NULL, email VARCHAR(255), birthdate DATE);
Query OK, 0 rows affected (0.03 sec)

mysql> DESC Members;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int  | NO   | PRI | NULL    | auto_increment |
| name  | varchar(50) | NO   |     | NULL    |               |
| email | varchar(255) | YES  |     | NULL    |               |
| birthdate | date | YES  |     | NULL    |               |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> CREATE TABLE Reminders (id INT PRIMARY KEY AUTO_INCREMENT, memberId INT, Message VARCHAR(255) NOT NULL);
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER /
mysql> CREATE TRIGGER after_member_insert
  -> AFTER INSERT ON Members
  -> FOR EACH ROW
  -> BEGIN
  -> IF NEW.birthdate IS NULL THEN
  -> INSERT INTO Reminders (memberId, Message)
  -> VALUES (NEW.id, CONCAT('Remember to update birthdate for ', NEW.name));
  -> END IF;
  -> END /
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> INSERT INTO Members(name,email,birthdate) VALUES('John Doe','johnexample.com',NULL);
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM Reminders;
+-----+-----+-----+
| id | memberId | Message |
+-----+-----+-----+
| 1  | 1        | Remember to update birthdate for John Doe |
+-----+-----+-----+
```

Q3)

Ans= Part 1,

```
MySQL 8.0 Command Line Cli x + v

mysql> CREATE TABLE Sales (id INT PRIMARY KEY AUTO_INCREMENT,
-> product VARCHAR(50) NOT NULL,
-> quantity INT NOT NULL,
-> fiscalYear SMALLINT NOT NULL,
-> fiscalMonth TINYINT NOT NULL,
-> Remarks VARCHAR(255));
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO Sales (product, quantity, fiscalYear, fiscalMonth)
-> VALUES ('2003 Harley-Davidson Eagle Drag Bike', 120, 2020, 1), ('1969 Corvair Monza', 150, 2020, 1), ('1970 Plymouth Hemi Cuda', 200, 2020, 1);
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> desc sales;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id | int | NO | PRI | NULL | auto_increment |
| product | varchar(50) | NO | | NULL | |
| quantity | int | NO | | NULL | |
| fiscalYear | smallint | NO | | NULL | |
| fiscalMonth | tinyint | NO | | NULL | |
| Remarks | varchar(255) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> DELIMITER /
mysql> CREATE TRIGGER before_sales
-> BEFORE UPDATE ON Sales
-> FOR EACH ROW
-> BEGIN
-> IF NEW.quantity > (OLD.quantity * 3) THEN
-> SET NEW.Remarks = 'New quantity cannot be 3 times greater than the current quantity';
-> END IF;
-> END /
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> UPDATE Sales
```

Part 2,

```
MySQL 8.0 Command Line Cli x + v

6 rows in set (0.00 sec)

mysql> DELIMITER /
mysql> CREATE TRIGGER before_sales
-> BEFORE UPDATE ON Sales
-> FOR EACH ROW
-> BEGIN
-> IF NEW.quantity > (OLD.quantity * 3) THEN
-> SET NEW.Remarks = 'New quantity cannot be 3 times greater than the current quantity';
-> END IF;
-> END /
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> UPDATE Sales
-> SET quantity = 361
-> WHERE id = 1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM Sales;
+-----+-----+-----+-----+-----+-----+
| id | product | quantity | fiscalYear | fiscalMonth | Remarks |
+-----+-----+-----+-----+-----+-----+
| 1 | 2003 Harley-Davidson Eagle Drag Bike | 361 | 2020 | 1 | New quantity cannot be 3 times greater than the current quantity |
| 2 | 1969 Corvair Monza | 150 | 2020 | 1 | NULL |
| 3 | 1970 Plymouth Hemi Cuda | 200 | 2020 | 1 | NULL |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql>
```

Q4)

Ans= Part 1,

```
MySQL 8.0 Command Line Cli x + v
mysql> CREATE TABLE SalesChanges (id INT PRIMARY KEY AUTO_INCREMENT,
-> salesid INT,
-> beforequantity INT,
-> afterquantity INT,
-> changedAt TIMESTAMP DEFAULT CURRENT_TIMESTAMP);
Query OK, 0 rows affected (0.02 sec)

mysql> DELETE FROM Sales;
Query OK, 3 rows affected (0.00 sec)

mysql> INSERT INTO Sales (product, quantity, fiscalYear, fiscalMonth)
-> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ''
at line 1
mysql> INSERT INTO Sales (product, quantity, fiscalYear, fiscalMonth)
-> VALUES('2001 Ferrari Enzo', 140, 2021, 1),('1998 Chrysler Plymouth Prowler', 110, 2021, 1),('1913 Ford Model T Speedster', 120, 2021, 1);
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> DELIMITER /
mysql> CREATE TRIGGER after_sales_update
-> AFTER UPDATE ON Sales
-> FOR EACH ROW
-> BEGIN
-> INSERT INTO SalesChanges (salesid, beforequantity, afterquantity)
-> VALUES (NEW.id, OLD.quantity, NEW.quantity);
-> END /
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> UPDATE Sales
-> SET quantity = 200
-> WHERE product = '2001 Ferrari Enzo';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM SalesChanges;
+-----+-----+-----+-----+
| id | salesid | beforequantity | afterquantity | changedAt |
+-----+-----+-----+-----+

```

Part 2,

```
MySQL 8.0 Command Line Cli x + v
Query OK, 3 rows affected (0.00 sec)

mysql> INSERT INTO Sales (product, quantity, fiscalYear, fiscalMonth)
-> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near ''
at line 1
mysql> INSERT INTO Sales (product, quantity, fiscalYear, fiscalMonth)
-> VALUES('2001 Ferrari Enzo', 140, 2021, 1),('1998 Chrysler Plymouth Prowler', 110, 2021, 1),('1913 Ford Model T Speedster', 120, 2021, 1);
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> DELIMITER /
mysql> CREATE TRIGGER after_sales_update
-> AFTER UPDATE ON Sales
-> FOR EACH ROW
-> BEGIN
-> INSERT INTO SalesChanges (salesid, beforequantity, afterquantity)
-> VALUES (NEW.id, OLD.quantity, NEW.quantity);
-> END /
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> UPDATE Sales
-> SET quantity = 200
-> WHERE product = '2001 Ferrari Enzo';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM SalesChanges;
+-----+-----+-----+-----+
| id | salesid | beforequantity | afterquantity | changedAt |
+-----+-----+-----+-----+
| 1 | 4 | 140 | 200 | 2023-09-28 23:00:25 |
+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql>
```


Q5)

Ans= Part 1,

```
mysql> CREATE TABLE Salaries (employeeNumber INT PRIMARY KEY,  
-> validFrom DATE NOT NULL,  
-> amount DECIMAL(12,2) NOT NULL DEFAULT 0);  
Query OK, 0 rows affected (0.03 sec)  
  
mysql> INSERT INTO Salaries (employeeNumber, validFrom, amount) VALUES(1002, '2002-02-02',50000),(1003,'2000-01-01',60000),(1004,'2001-01-01',70000);  
Query OK, 3 rows affected (0.01 sec)  
Records: 3 Duplicates: 0 Warnings: 0  
  
mysql> DESC Salaries;  
+-----+  
| Field          | Type          | Null | Key | Default | Extra |  
+-----+  
| employeeNumber | int           | NO   | PRI | NULL    |       |  
| validFrom      | date         | NO   |     | NULL    |       |  
| amount         | decimal(12,2) | NO   |     | 0.00    |       |  
+-----+  
3 rows in set (0.00 sec)  
  
mysql> select * from salaries;  
+-----+  
| employeeNumber | validFrom | amount |  
+-----+  
| 1002 | 2002-02-02 | 50000.00 |  
| 1003 | 2000-01-01 | 60000.00 |  
| 1004 | 2001-01-01 | 70000.00 |  
+-----+  
3 rows in set (0.00 sec)  
  
mysql> CREATE TABLE SalaryArchives (id INT PRIMARY KEY AUTO_INCREMENT,  
-> employeeNumber INT,  
-> validFrom DATE NOT NULL,  
-> amount DECIMAL(12,2) NOT NULL DEFAULT 0,  
-> Deletedat TIMESTAMP DEFAULT CURRENT_TIMESTAMP);  
Query OK, 0 rows affected (0.02 sec)  
  
mysql> DESC SalaryArchives;  
ERROR 1146 (42S02): Table 'classicmodels.salaryarchives' doesn't exist  
mysql> DESC SalaryArchives;
```

Part 2,

```
mysql> DESC SalaryArchives;  
ERROR 1146 (42S02): Table 'classicmodels.salaryarchives' doesn't exist  
mysql> DESC SalaryArchives;  
+-----+  
| Field          | Type          | Null | Key | Default          | Extra          |  
+-----+  
| id             | int           | NO   | PRI | NULL             | auto_increment |  
| employeeNumber | int           | YES  |     | NULL             |               |  
| validFrom      | date         | NO   |     | NULL             |               |  
| amount         | decimal(12,2) | NO   |     | 0.00             |               |  
| Deletedat      | timestamp     | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |  
+-----+  
5 rows in set (0.00 sec)  
  
mysql> DELIMITER /  
mysql> CREATE TRIGGER before_salaries  
-> BEFORE DELETE ON Salaries  
-> FOR EACH ROW  
-> BEGIN  
-> INSERT INTO SalaryArchives (employeeNumber, validFrom, amount)  
-> VALUES (OLD.employeeNumber, OLD.validFrom, OLD.amount);  
-> END /  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> DELIMITER ;  
mysql> DELETE FROM Salaries WHERE employeeNumber = 1002;  
Query OK, 1 row affected (0.01 sec)  
  
mysql> SELECT * FROM SalaryArchives;  
+-----+  
| id | employeeNumber | validFrom | amount | Deletedat          |  
+-----+  
| 1 | 1002 | 2002-02-02 | 50000.00 | 2023-09-29 08:04:15 |  
+-----+  
1 row in set (0.00 sec)  
  
mysql>
```

Q6)

Ans= Part 1,

```
mysql> DROP TABLE Salaries;
Query OK, 0 rows affected (0.01 sec)

mysql> CREATE TABLE Salaries (employeenumber INT PRIMARY KEY,
-> salary DECIMAL(12,2) NOT NULL DEFAULT 0);
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO Salaries (employeenumber, salary) VALUES(1002,5000),(1056,7000),(1076,8000);
Query OK, 3 rows affected (0.01 sec)
Records: 3 Duplicates: 0 Warnings: 0

mysql> DESC Salaries;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| employeenumber | int | NO | PRI | NULL | |
| salary | decimal(12,2) | NO | | 0.00 | |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> CREATE TABLE SalaryBudgets(total DECIMAL(15,2) NOT NULL);
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO SalaryBudgets (total) SELECT SUM(salary) FROM Salaries;
Query OK, 1 row affected (0.00 sec)
Records: 1 Duplicates: 0 Warnings: 0

mysql> DESC SalaryBudgets;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| total | decimal(15,2) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> SELECT * FROM SalaryBudgets;
+-----+
| total |
+-----+
| 20000.00 |
+-----+
```

Part 2,

```
mysql> DESC SalaryBudgets;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| total | decimal(15,2) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> SELECT * FROM SalaryBudgets;
+-----+
| total |
+-----+
| 20000.00 |
+-----+
1 row in set (0.00 sec)

mysql> DELIMITER /
mysql> CREATE TRIGGER after_salaries
-> AFTER DELETE ON Salaries
-> FOR EACH ROW
-> BEGIN
-> UPDATE SalaryBudgets
-> SET total = total - OLD.salary;
-> END /
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> DELETE FROM Salaries WHERE employeenumber = 1002;
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM SalaryBudgets;
+-----+
| total |
+-----+
| 15000.00 |
+-----+
1 row in set (0.00 sec)

mysql>
```