

```
CREATE DATABASE Transporte;  
USE Transporte;
```

```
CREATE TABLE Empresa (  
  id_empresa INT AUTO-INCREMENT PRIMARY KEY,  
  nombre VARCHAR(100),  
  telefono VARCHAR(20),  
  direccion VARCHAR(100)  
);
```

```
CREATE TABLE Vehiculo (  
  id_vehiculo INT AUTO-INCREMENT PRIMARY KEY,  
  placa VARCHAR(10),  
  modelo VARCHAR(50),  
  anio INT,  
  id_empresa INT,  
  FOREIGN KEY (id_empresa) REFERENCES Empresa  
  (id_empresa)  
);
```

```
CREATE TABLE Chofer (  
  id_chofer INT AUTO-INCREMENT PRIMARY KEY,  
  nombre VARCHAR(100),  
  licencia VARCHAR(50),  
  telefono VARCHAR(20)  
);
```

```
CREATE TABLE Ruta (  
  id_ruta INT AUTO-INCREMENT PRIMARY KEY,  
  origen VARCHAR(100),  
  destino VARCHAR(100),  
  duracion INT  
);
```

```
CREATE TABLE Horario (  
  id_horario INT AUTO-INCREMENT PRIMARY KEY,  
  hora_salida TIME,  
  hora_llegada TIME,  
  dia VARCHAR(20)  
);
```

```
CREATE TABLE Vehiculo_Ruta (  
  id_vehiculo INT,  
  id_ruta INT,  
  observacion TEXT,  
  PRIMARY KEY (id_vehiculo, id_ruta),  
  FOREIGN KEY (id_vehiculo) REFERENCES Vehiculo (id_vehiculo),
```

```
FOREIGN KEY (id_ruta) REFERENCES ruta (id_ruta)
);
```

```
CREATE TABLE Chofer-Horario (
    id_chofer INT,
    id_horacion INT,
    turno VARCHAR(20),
    PRIMARY KEY (id_chofer, id_horario),
    FOREIGN KEY (id_chofer) REFERENCES Chofer (id_chofer),
    FOREIGN KEY (id_horario) REFERENCES Horario (id_horario)
);
```

```
INSERT INTO Empresa (nombre, telefono, direccion) VALUES
('TransAndes', '3216544810', 'Av. Principal 123'),
('ViaExpress', '3204567890', 'Cra 45 #56-78'),
('MutaSegura', '3198765432', 'Cl 12 #34-56'),
('Valle', '3202565271', 'Cl 10 #33-50');
```

```
INSERT INTO Vehiculo (placa, modelo, año, id_empresa)
VALUES
('ABC123', 'Toyota', 2015, 1),
('XYZ789', 'Mercedes', 2018, 2),
('LMN456', 'Ford', 2020, 3),
('HJK567', 'Lamborghini', 2024, 4);
```

```
INSERT INTO Chofer (nombre, licencia, telefono) VALUES
('Carlos Perez', 'B12345', '3101234567'),
('Marta Lopez', 'C67890', '3114654321'),
('Luis Gomez', 'A54321', '3129988776'),
('Luis Martinez', 'A54321', '3144214409');
```

```
INSERT INTO Ruta (origen, destino, duracion) VALUES
('Bogota', 'Medellin', 8),
('Cali', 'Pereira', 5),
('Barranquilla', 'Cartagena', 2),
('Cartagena', 'Boga', 6);
```

```
INSERT INTO Horario (hora_salida, hora_llegada, dia)
VALUES
('06:00:00', '14:00:00', 'Lunes'),
('08:00:00', '13:00:00', 'Miercoles'),
('09:00:00', '17:00:00', 'Viernes'),
('02:00:00', '17:00:00', 'Sabados');
```

```
INSERT INTO Vehiculo-Ruta (id_vehiculo, id_ruta,
observacion) VALUES
(1, 1, 'Ruta principal'),
(2, 2, 'Ruta secundaria');
```



```
(3,3,'mota costera'),  
(4,4,'mota tercera');
```

```
INSERT INTO choper_Horario (id_choper, id_horario,  
turno) VALUES  
(1,1,'Mañana'),  
(2,2,'Tarde'),  
(3,3,'Noche'),  
(4,4,'Diurno');
```

```
UPDATE Vehiculo  
SET modelo = 'Hyundai H1'  
WHERE id_vehiculo = 1;
```

```
UPDATE choper  
SET telefono = '3130001414'  
WHERE id_choper = 2;
```

```
UPDATE Mota  
SET duracion = 3  
WHERE id_ruta = 3;
```

```
UPDATE Empresa  
SET direccion = 'Calle 101'  
WHERE id_empresa = 1;
```

```
UPDATE Horario  
SET dia = 'domingo'  
WHERE id_horario = 2;
```

```
DELETE FROM Vehiculo_Mota  
WHERE id_vehiculo = 1 AND id_ruta = 1;
```

```
DELETE FROM Vehiculo_Mota  
WHERE id_vehiculo = 3 AND id_ruta = 3;
```

```
DELETE FROM choper_Horario  
WHERE id_choper = 2 AND id_horario = 2;
```

```
DELETE FROM Vehiculo  
WHERE id_vehiculo = 3;
```

```
DELETE FROM Empresa  
WHERE id_empresa = 3;
```

```
SELECT v.placa, r.origen, r.destino  
FROM Vehiculo v  
JOIN Vehiculo_Mota vr ON v.id_vehiculo = vr.id_vehiculo
```

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```
JOIN Muta r ON vr.id_ruta = r.id_ruta;
```

```
SELECT ch.nombre, h.hora_salida, h.dia
```

```
FROM chofer ch
```

```
JOIN chofer_Horario chh ON ch.id_chofer = chh.id_chofer
```

```
JOIN Horario h ON chh.id_horario = h.id_horario;
```

```
SELECT e.nombre, v.modelo
```

```
FROM Empresa e
```

```
JOIN Vehiculo v ON e.id_empresa = v.id_empresa;
```

```
SELECT c.nombre, r.origen
```

```
FROM chofer c
```

```
JOIN chofer_Horario chh ON c.id_chofer = chh.id_chofer
```

```
JOIN Horario h ON chh.id_horario = h.id_horario
```

```
JOIN Muta r ON r.id_ruta = 1;
```

```
SELECT r.origen, COUNT(vr.id-vehiculo) AS  
cantidad_vehiculos
```

```
FROM Muta r
```

```
JOIN Vehiculo_Muta vr ON r.id_ruta = vr.id_ruta
```

```
GROUP BY r.origen;
```

```
SELECT nombre
```

```
FROM chofer
```

```
WHERE id_chofer = (  
SELECT MAX(id_chofer)
```

```
FROM chofer
```

```
);
```

```
SELECT modelo
```

```
FROM Vehiculo
```

```
WHERE id_vehiculo = (  
SELECT id_vehiculo
```

```
FROM Vehiculo_Ruta
```

```
WHERE id_ruta = 2
```

```
);
```

```
SELECT origen
```

```
FROM Muta
```

```
WHERE id_ruta = (  
SELECT id_ruta
```

```
FROM Vehiculo_Muta
```

```
GROUP BY id_ruta
```

```
ORDER BY COUNT(*) DESC
```

```
LIMIT 1
```

```
);
```



```

SELECT nombre
FROM empresa
WHERE id_empresa = (
    SELECT MAX(id_empresa)
    FROM empresa
);

```

```

SELECT nombre
FROM chofer
WHERE id_chofer IN (
    SELECT id_chofer
    FROM chofer_Horario
    WHERE turno = 'Mañana'
);

```

DELIMITER //

```

CREATE FUNCTION Fn-total-vehiculos () RETURNS
INT DETERMINISTIC
BEGIN
    DECLARE total INT;
    SELECT COUNT(*) INTO total FROM vehiculo;
    RETURN total;
END; //

```

```

CREATE FUNCTION Fn-total-choferes () RETURNS
INT DETERMINISTIC
BEGIN
    DECLARE total INT;
    SELECT COUNT(*) INTO total FROM chofer;
    RETURN total;
END; //

```

```

CREATE FUNCTION Fn-nombre-chofer (pid INT) RETURNS
VARCHAR(100) DETERMINISTIC
BEGIN
    DECLARE nombre VARCHAR(100);
    SELECT nombre INTO nombre FROM chofer
    WHERE id_chofer = pid;
    RETURN nombre;
END; //

```

```

CREATE FUNCTION Fn-ruta-origen (pid INT) RETURNS
VARCHAR(100) DETERMINISTIC
BEGIN
    DECLARE origen VARCHAR(100);
    SELECT origen INTO origen FROM ruta WHERE id_ruta = pid;
    RETURN origen;
END; //

```

```

CREATE FUNCTION fn_duracion_ruta (pid INT) RETURNS
INT DETERMINISTIC
BEGIN
  DECLARE d INT;
  SELECT duracion INTO d FROM ruta WHERE id_ruta=pid;
  RETURN d;
END; //

```

```

CREATE FUNCTION fn_horario_dia (pid INT) RETURNS
VARCHAR(20) DETERMINISTIC
BEGIN
  DECLARE d VARCHAR(20);
  SELECT dia INTO d FROM Horario WHERE id_horario=pid;
  RETURN d;
END; //

```

```

CREATE FUNCTION fn_total_rutas () RETURNS INT
DETERMINISTIC
BEGIN
  DECLARE total INT;
  SELECT COUNT(*) INTO total FROM ruta;
  RETURN total;
END; //

```

```

CREATE FUNCTION fn_total_horarios () RETURNS INT
DETERMINISTIC
BEGIN
  DECLARE total INT;
  SELECT COUNT(*) INTO total FROM Horario;
  RETURN total;
END; //

```

```

CREATE FUNCTION fn_turno_chofer () RETURNS
VARCHAR(20) DETERMINISTIC
BEGIN
  DECLARE turno VARCHAR(20);
  SELECT turno INTO turno FROM chofer_Horario
  WHERE id_chofer=pid
  LIMIT 1;
  RETURN turno;
END; //
DELIMITER;

```

```
DELIMITER //  
CREATE PROCEDURE sp_insertar_ruta  
IN porigen VARCHAR(100),  
IN pdestino VARCHAR(100),  
IN pduracion INT  
)  
BEGIN  
INSERT INTO ruta (origen, destino, duracion)  
VALUES  
(porigen, pdestino, pduracion);  
END; //  
DELIMITER ;  
  
DROP DATABASE Transporte;
```