



Proyecto Final

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Crear Schema

```
CREATE SCHEMA `flights` DEFAULT CHARACTER SET utf8mb4 COLLATE utf8mb4_0900_ai_ci ;  
USE flights;
```

Table Name:

Charset/Collation:

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
IATA	VARCHAR(5)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Nombre	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ciudad	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Estado	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Direccion	VARCHAR(450)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Telefono	VARCHAR(15)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Diccionarios de datos

```
CREATE TABLE `flights`.`aeropuerto` (  
  `IATA` VARCHAR(5) NOT NULL,  
  `Nombre` VARCHAR(45) NULL,  
  `Ciudad` VARCHAR(45) NULL,  
  `Estado` VARCHAR(45) NULL,  
  `Direccion` VARCHAR(450) NULL,  
  `Telefono` VARCHAR(15) NULL,  
  PRIMARY KEY (`IATA`))  
ENGINE = InnoDB  
DEFAULT CHARACTER SET = utf8mb4  
COLLATE = utf8mb4_0900_ai_ci;
```

Table Name: pasajero

Charset/Collation: utf8mb4 utf8mb4_0900_ai_ci

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G
nombre	VARCHAR(100)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
apellido	VARCHAR(100)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
edad	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
curp	VARCHAR(45)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
direccion	VARCHAR(300)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
telefono	VARCHAR(15)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
sexo	VARCHAR(10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

```
CREATE TABLE `flights`.`pasajero` (
  `nombre` VARCHAR(100) NOT NULL,
  `apellido` VARCHAR(100) NULL,
  `edad` INT NULL,
  `curp` VARCHAR(45) NOT NULL,
  `direccion` VARCHAR(300) NULL,
  `telefono` VARCHAR(15) NULL,
  `sexo` VARCHAR(10) NULL,
  PRIMARY KEY (`curp`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;
```

Table Name: vuelo

Charset/Collation: utf8mb4 utf8mb4_0900_ai_ci

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G
id	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
aerolinea	VARCHAR(45)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
salida	DATETIME	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
llegada	DATETIME	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
duracion	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
recorrido	FLOAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
salidaAero	VARCHAR(5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
llegadaAero	VARCHAR(5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

```
CREATE TABLE `flights`.`vuelo` (
  `id` INT NOT NULL,
  `aerolinea` VARCHAR(45) NULL,
  `salida` DATETIME NULL,
  `llegada` DATETIME NULL,
  `duracion` INT NULL,
  `recorrido` FLOAT NULL,
  `salidaAero` VARCHAR(5) NULL,
  `llegadaAero` VARCHAR(5) NULL,
  PRIMARY KEY (`id`),
  INDEX `salidaAero_idx` (`salidaAero` ASC) VISIBLE,
  INDEX `llegadaAero_idx` (`llegadaAero` ASC) VISIBLE,
  CONSTRAINT `salidaAero`
    FOREIGN KEY (`salidaAero`)
```

```
REFERENCES `flights`.`aeropuerto` (`IATA`)
ON DELETE NO ACTION
ON UPDATE NO ACTION,
CONSTRAINT `llegadaAero`
FOREIGN KEY (`llegadaAero`)
REFERENCES `flights`.`aeropuerto` (`IATA`)
ON DELETE NO ACTION
ON UPDATE NO ACTION)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;
```

Table Name:

Charset/Collation:

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G
curp	VARCHAR(45)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
idVuelo	INT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

```
CREATE TABLE `flights`.`pasajero vuelo` (
  `curp` VARCHAR(45) NOT NULL,
  `idVuelo` INT NOT NULL,
  INDEX `curp_idx` (`curp` ASC) VISIBLE,
  INDEX `idVuelo_idx` (`idVuelo` ASC) VISIBLE,
  CONSTRAINT `curp`
    FOREIGN KEY (`curp`)
    REFERENCES `flights`.`pasajero` (`curp`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
  CONSTRAINT `idVuelo`
    FOREIGN KEY (`idVuelo`)
    REFERENCES `flights`.`vuelo` (`id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;
```

Table Name:

Charset/Collation:

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G
numero	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
precio	FLOAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
clase	VARCHAR(10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
numeroconfirmacion	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
idvuelo	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

```
CREATE TABLE `flights`.`ticket` (
  `numero` INT NOT NULL,
  `precio` FLOAT NULL,
  `clase` VARCHAR(10) NULL,
```

```

`numeroconfirmacion` INT NULL,
`idvuelo` INT NULL,
PRIMARY KEY (`numero`),
INDEX `idvuelo_idx` (`idvuelo` ASC) VISIBLE,
CONSTRAINT `id`
  FOREIGN KEY (`idvuelo`)
    REFERENCES `flights`.`vuelo` (`id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;

```

Table Name:

Charset/Collation:

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
what	VARCHAR(30)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
when	DATETIME	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
who	VARCHAR(50)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL

```

CREATE TABLE `flights`.`audit` (
  `what` VARCHAR(30) NOT NULL,
  `when` DATETIME NOT NULL,
  `who` VARCHAR(50) NULL,
  PRIMARY KEY (`when`))
ENGINE = InnoDB
DEFAULT CHARACTER SET = utf8mb4
COLLATE = utf8mb4_0900_ai_ci;

```

Table Name:

Charset/Collation:

Comments:

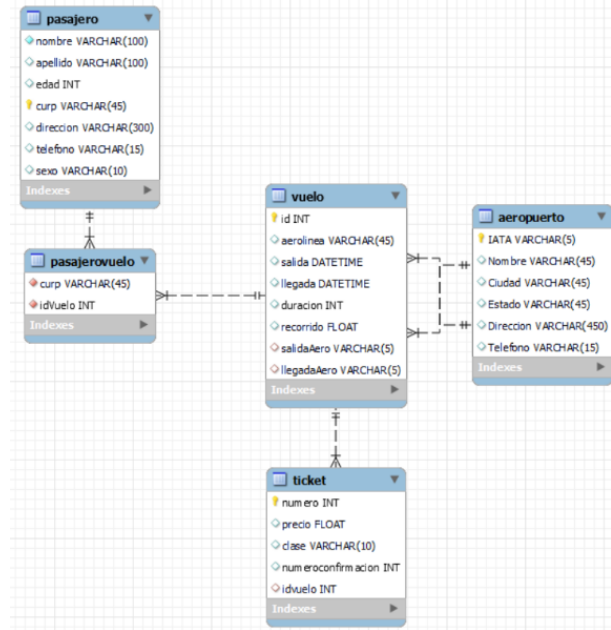
Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
idvuelo	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

```

CREATE TABLE `flights`.`successfulflights` (
  `idvuelo` INT NOT NULL,
  PRIMARY KEY (`idvuelo`));

```

Diagramas de entidad relación



Inserciones

```

1 • INSERT INTO `flights`.`aeropuerto`
2   ('IATA',
3    'Nombre',
4    'Ciudad',
5    'Estado',
6    'Direccion',
7    'Telefono')
8   VALUES
9   ('DAY', 'Aeropuerto Dayton', 'Dayton', 'Ohio', '3600 Terminal Dr, Dayton, OH 45377', '0019374548200'),
10  ('CUU', 'Aeropuerto Fierro', 'Chihuahua', 'Chihuahua', 'Blvd. Juan Pablo II 14, 31390 Chihuahua, Chih., México', '0526144787000'),
11  ('GDL', 'Aeropuerto Guadalajara', 'Guadalajara', 'Jalisco', 'Carr. Guadalajara - Chapala Km 17.5, 45659 Jal., México', '0523336885248'),
12  ('HMO', 'Aeropuerto Pesqueira', 'Hermosillo', 'Sonora', 'Carr. Hermosillo Bahía Kino, Aeropuerto, 83220 Hermosillo, Son., México', '0526622610142'),
13  ('MEX', 'Aeropuerto Benito Juárez', 'Ciudad de Mexico', 'Mexico', 'CMPH+C6 Ciudad de México, Cd. de México, México', '0525524822400')
14 ;

```

#	Time	Action	Message	Duration / Fetch
19	05:58:49	INSERT INTO `flights`.`aeropuerto` ('IATA', 'Nombre', 'Ciudad', 'Estado', 'Direccion', 'Telefono') VALUES ('D...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.000 sec

```

1 • INSERT INTO `flights`.`vuelo`
2   ('id',
3    'aerolineas',
4    'salida',
5    'llegada',
6    'duracion',
7    'recorrido',
8    'salidaAero',
9    'llegadaAero')
10  VALUES
11  (1, 'American Airlines', '2022-06-10 06:00:00', '2022-06-10 07:00:00', 60, 112.0, 'DAY', 'CUU'),
12  (2, 'Delta', '2022-06-10 06:00:00', '2022-06-10 10:00:00', 240, 235.0, 'CUU', 'GDL'),
13  (3, 'Ana', '2022-06-11 06:00:00', '2022-06-11 07:00:00', 60, 112.0, 'GDL', 'HMO'),
14  (4, 'United', '2022-06-11 06:00:00', '2022-06-11 10:00:00', 240, 235.0, 'HMO', 'MEX'),

```

#	Time	Action	Message	Duration / Fetch
1	06:14:01	INSERT INTO `flights`.`vuelo` ('id', 'aerolineas', 'salida', 'llegada', 'duracion', 'recorrido', 'salidaAero', 'llegadaAero' ...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.015 sec

```

1 • INSERT INTO `flights`.`ticket`
2   (
3     `numero`,
4     `precio`,
5     `clase`,
6     `numeroconfirmacion`,
7     `idvuelo`)
8   VALUES
9   (1, 112.0, "Economica", 1111, 1),
10  (2, 123.0, "Ejecutiva", 1112, 2),
11  (3, 235.0, "Ejecutiva", 1113, 3),
12  (4, 358.0, "VIP", 1114, 4),
13  (5, 813.0, "VIP", 1115, 5)
14  ;

```

Output

#	Time	Action	Message	Duration / Fetch
1	06:40:27	INSERT INTO `flights`.`ticket` (`numero`, `precio`, `clase`, `numeroconfirmacion`, `idvuelo`) VALUES (1, 112.0, "Ec...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.015 sec

```

1 • INSERT INTO `flights`.`pasajero`
2   (
3     `nombre`,
4     `apellido`,
5     `edad`,
6     `curp`,
7     `direccion`,
8     `telefono`,
9     `sexo`)
10  VALUES
11  ("Karla Ivet", "Robles Jimenez", 14, "ROJK070927MHGBMRA6", "San Miguel", "0524491234567", "Mujer"),
12  ("Luis Eduardo", "Robles Jimenez", 20, "ROJL010905SHMCBMSA3", "San Miguel", "0524491233445", "Hombre"),
13  ("Sara Carolina", "Gomez Delgado", 21, "G005001231MJCMLRA2", "Acerina", "0524471234567", "Mujer"),
14  ("Gabriela", "Jimenez Trejo", 41, "JITG001201MDFMRB05", "San Miguel", "0524499876554", "Mujer"),
15  ("Luis Eduardo", "Robles Santoyo", 46, "ROSL751007HDFBNS03", "San Miguel", "054499152334", "Hombre")

```

Output

#	Time	Action	Message	Duration / Fetch
1	06:55:05	INSERT INTO `flights`.`pasajero` (`nombre`, `apellido`, `edad`, `curp`, `direccion`, `telefono`, `sexo`) VALUES ("Karl...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.015 sec

```

1 • INSERT INTO `flights`.`pasajerovuelo`
2   (
3     `curp`,
4     `idvuelo`)
5   VALUES
6   ("ROJK070927MHGBMRA6", 1),
7   ("ROJL010905SHMCBMSA3", 2),
8   ("G005001231MJCMLRA2", 3),
9   ("JITG001201MDFMRB05", 4),
10  ("ROSL751007HDFBNS03", 5)
11  ;

```

Output

#	Time	Action	Message	Duration / Fetch
2	06:59:01	INSERT INTO `flights`.`pasajerovuelo` (`curp`, `idvuelo`) VALUES ("ROJK070927MHGBMRA6", 1), ("ROJL010...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.015 sec

Views

```

create or replace view Informacion_General as
select concat(p.nombre, " ", p.apellido) as Pasajero, a1.Nombre as Desde, a2.Nombre as Hasta, v.duracion as "Duracion (minutos)", t.clase
join pasajerovuelo pv on pv.curp = p.curp
join vuelo v on v.id = pv.idVuelo
join ticket t on t.idvuelo = v.id
join aeropuerto a1 on v.salidaAero = a1.IATA
join aeropuerto a2 on v.llegadaAero = a2.IATA;
select * from Informacion_General;

```

```

1 • create or replace view Informacion_General as
2   select concat(p.nombre, " ", p.apellido) as Pasajero, a1.Nombre as Desde, a2.Nombre as Hasta, v.duracion as "Duracion (minutos)", t.clase as Clase from pasajero p
3   join pasajervuelo pv on pv.curp = p.curp
4   join vuelo v on v.id = pv.idVuelo
5   join ticket t on t.idvuelo = v.id
6   join aeropuerto a1 on v.salidaAero = a1.IATA
7   join aeropuerto a2 on v.llegadaAero = a2.IATAj

```

Output

#	Time	Action	Message	Duration / Fetch
1	12:29:43	create or replace view Informacion_General as select concat(p.nombre, " ", p.apellido) as Pasajero, a1.Nombre a...	0 row(s) affected	0.000 sec

```

1 • create or replace view Informacion_General as
2   select concat(p.nombre, " ", p.apellido) as Pasajero, a1.Nombre as Desde, a2.Nombre as Hasta, v.duracion as "Duracion (minutos)", t.clase as Clase from pasajero p
3   join pasajervuelo pv on pv.curp = p.curp
4   join vuelo v on v.id = pv.idVuelo
5   join ticket t on t.idvuelo = v.id
6   join aeropuerto a1 on v.salidaAero = a1.IATA
7   join aeropuerto a2 on v.llegadaAero = a2.IATAj
8 • select * from Informacion_Generalj
9

```

Result Grid

Pasajero	Desde	Hasta	Duradon (minutos)	Clase
Sara Carolina Gomez Delgado	Aeropuerto Guadalajara	Aeropuerto Pesqueira	60	Ejecutiva
Gabriela Jimenez Trejo	Aeropuerto Pesqueira	Aeropuerto Benito Juarez	240	VIP
Karla Ivet Robles Jimenez	Aeropuerto Dayton	Aeropuerto Fierro	60	Economica
Luis Eduardo Robles Jimenez	Aeropuerto Fierro	Aeropuerto Guadalajara	240	Ejecutiva
Luis Eduardo Robles Santoyo	Aeropuerto Benito Juarez	Aeropuerto Dayton	1440	VIP

Informacion_General 21 x

Output

#	Time	Action	Message	Duration / Fetch
1	12:29:43	create or replace view Informacion_General as select concat(p.nombre, " ", p.apellido) as Pasajero, a1.Nombre ...	0 row(s) affected	0.000 sec
2	12:30:06	select * from Informacion_General LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

```

create or replace view Kilometros_acumulados as
select nombre, apellido, p.curp, sum(recorrido) as "Kilometros totales" from pasajero p
join pasajervuelo pv on pv.curp = p.curp
join vuelo v on v.id = pv.idVuelo
group by p.curp;
select * from Kilometros_acumulados;

```

```

10 • create or replace view Kilometros_acumulados as
11   select nombre, apellido, p.curp, sum(recorrido) as "Kilometros totales" from pasajero p
12   join pasajervuelo pv on pv.curp = p.curp
13   join vuelo v on v.id = pv.idVuelo
14   group by p.curp;

```

Output

#	Time	Action	Message	Duration / Fetch
1	12:31:38	create or replace view Kilometros_acumulados as select nombre, apellido, p.curp, sum(recomido) as "Kilometros tot...	0 row(s) affected	0.000 sec

```

10 • create or replace view Kilometros_acumulados as
11   select nombre, apellido, p.curp, sum(recorrido) as "Kilometros totales" from pasajero p
12   join pasajero_vuelo pv on pv.curp = p.curp
13   join vuelo v on v.id = pv.idVuelo
14   group by p.curp;
15 • select * from Kilometros_acumulados;

```

nombre	apellido	curp	Kilometros totales
Sara Carolina	Gomez Delgado	GODS001231MJCMLRA2	112
Gabriela	Jimenez Trejo	JITG801201MDFMRB05	235
Karla Ivet	Robles Jimenez	ROJK070927MHGBMR46	112
Luis Eduardo	Robles Jimenez	ROJL010909HMCBMSA3	235

Kilometros_acumulados22 x

Output

#	Time	Action	Message	Duration / Fetch
1	12:31:38	create or replace view Kilometros_acumulados as select nombre, apellido, p.curp, sum(recorrido) as "Kilometros t...	0 row(s) affected	0.000 sec
2	12:32:01	select * from Kilometros_acumulados LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

```

create or replace view Informacion_Vuelo as
select idVuelo as "ID de vuelo", aerolinea as Aerolinea, salida as Salida, llegada as Llegada, count(1) as "Numero de pasajeros" from pasaj
join vuelo v on v.id = pv.idVuelo
group by idVuelo;
select * from Informacion_Vuelo;

```

```

16
17 • create or replace view Informacion_Vuelo as
18   select idVuelo as "ID de vuelo", aerolinea as Aerolinea, salida as Salida, llegada as Llegada, count(1) as "Numero de pasajeros" from pasajero_vuelo pv
19   join vuelo v on v.id = pv.idVuelo
20   group by idVuelo;

```

Output

#	Time	Action	Message	Duration / Fetch
1	12:32:23	create or replace view Informacion_Vuelo as select idVuelo as "ID de vuelo", aerolinea as Aerolinea, salida as Sal...	0 row(s) affected	0.015 sec

```

17 • create or replace view Informacion_Vuelo as
18   select idVuelo as "ID de vuelo", aerolinea as Aerolinea, salida as Salida, llegada as Llegada, count(1) as "Numero de pasajeros" from pasajero_vuelo pv
19   join vuelo v on v.id = pv.idVuelo
20   group by idVuelo;
21 • select * from Informacion_Vuelo;

```

ID de vuelo	Aerolinea	Salida	Llegada	Numero de pasajeros
1	American Airlines	2022-06-10 06:00:00	2022-06-10 07:00:00	1
2	Delta	2022-06-10 06:00:00	2022-06-10 10:00:00	1
3	Ana	2022-06-11 06:00:00	2022-06-11 07:00:00	1
4	United	2022-06-11 06:00:00	2022-06-11 10:00:00	1
5	Avianca	2022-06-10 06:00:00	2022-06-11 06:00:00	1

Informacion_Vuelo 23 x

Output

#	Time	Action	Message	Duration / Fetch
1	12:32:23	create or replace view Informacion_Vuelo as select idVuelo as "ID de vuelo", aerolinea as Aerolinea, salida as S...	0 row(s) affected	0.015 sec
2	12:33:08	select * from Informacion_Vuelo LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Stored Procedures

```

drop procedure if exists vuelos_aerolinea;
delimiter $$
create procedure vuelos_aerolinea(
  airline varchar(255)
)
begin
  declare vAirline varchar(255) default "";
  set vAirline = airline;
  if char_length(vAirline) <= 0 then
    signal sqlstate '22003'
    set message_text = 'Invalid Argument';
  end if;
  select * from vuelo where aerolinea = airline;
end$$

```



```

delimiter ;
call vuelos_aerolinea("");
call vuelos_aerolinea("American Airlines");

```

```

1 • drop procedure if exists vuelos_aerolinea;
2 delimiter $$
3 • create procedure vuelos_aerolinea(
4     airline varchar(255)
5 )
6 begin
7     declare vAirline varchar(255) default "";
8     set vAirline = airline;
9     if char_length(vAirline) <= 0 then
10         signal sqlstate '22003'
11         set message_text = 'Invalid Argument';
12     end if;
13     select * from vuelo where aerolinea = airline;
14 end$$
15 delimiter ;

```

Output

#	Time	Action	Message	Duration / Fetch
1	20:40:44	drop procedure if exists vuelos_aerolinea	0 row(s) affected	0.000 sec
2	20:40:44	create procedure vuelos_aerolinea(airline varchar(255)) begin declare vAirline varchar(255) default ""; set vAir...	0 row(s) affected	0.016 sec

17 • call vuelos_aerolinea("American Airlines");

id	aerolinea	salida	legada	duracion	recorrido	salidaAero	legadaAero
1	American Airlines	2022-06-10 06:00:00	2022-06-10 07:00:00	60	112	DAY	CUU

```

drop procedure if exists gasto_pasajero;
delimiter $$
create procedure gasto_pasajero(
    aCurp varchar(255)
)
begin
    declare vCurp varchar(255) default "";
    set vCurp = aCurp;
    if char_length(vCurp) <= 0 then
        signal sqlstate '22003'
        set message_text = 'Invalid Argument';
    end if;
    select p.curp as CURP, concat(p.nombre, " ", p.apellido) as Nombre, sum(t.precio) from pasajero p
    join pasajero_vuelo pv on pv.curp = p.curp
    join ticket t on t.id_vuelo = pv.id_vuelo
    group by p.curp
    having p.curp = vCurp;
end$$
delimiter ;
call gasto_pasajero("");
call gasto_pasajero("R0JL010905HMCBMSA3");

```

```

19 • drop procedure if exists gasto_pasajero;
20 delimiter $$
21 • create procedure gasto_pasajero(
22     aCurp varchar(255)
23 )
24 begin
25     declare vCurp varchar(255) default "";
26     set vCurp = aCurp;
27     if char_length(vCurp) <= 0 then
28         signal sqlstate '22003'
29         set message_text = 'Invalid Argument';
30     end if;
31     select p.curp as CURP, concat(p.nombre, " ", p.apellido) as Nombre, sum(t.precio) from pasajero p
32     join pasajero_vuelo pv on pv.curp = p.curp
33     join ticket t on t.id_vuelo = pv.id_vuelo
34     group by p.curp
35     having p.curp = vCurp;
36 end$$
37 delimiter ;

```

Output

#	Time	Action	Message	Duration / Fetch
1	20:44:51	drop procedure if exists gasto_pasajero	0 row(s) affected	0.016 sec
2	20:44:51	create procedure gasto_pasajero(aCurp varchar(255)) begin declare vCurp varchar(255) default ""; set vCurp ...	0 row(s) affected	0.000 sec

39 • `call gasto_pasajero("ROJL010905HMCBMSA3");`

CURP	Nombre	sum(t.precio)
ROJL010905HMCBMSA3	Luis Eduardo Robles Jimenez	123

```

drop procedure if exists vuelo;
delimiter $$
create procedure vuelo(
  idVuelo int
)
begin
  declare vID int default 1;
  if idVuelo > 0 then
    set vID = idVuelo;
  end if;
  select * from vuelo v where v.id = vID;
end$$
delimiter ;
call vuelo(-10);
call vuelo(300);

```

41 • `drop procedure if exists vuelo;`
 42 `delimiter $$`
 43 • `create procedure vuelo(`
 44 `idVuelo int`
 45 `)`
 46 `begin`
 47 `declare vID int default 1;`
 48 `if idVuelo > 0 then`
 49 `set vID = idVuelo;`
 50 `end if;`
 51 `select * from vuelo v where v.id = vID;`
 52 `end$$`
 53 `delimiter ;`

Output

#	Time	Action	Message	Duration / Fetch
1	20:46:28	drop procedure if exists vuelo	0 row(s) affected	0.016 sec
2	20:46:28	create procedure vuelo(idVuelo int) begin declare vID int default 1; if idVuelo > 0 then set vID = idVuelo; end if; s...	0 row(s) affected	0.000 sec

54 • `call vuelo(-10);`
 55 • `call vuelo(300);`

id	aerolinea	salida	llegada	duracion	recorrido	salidaAero	llegadaAero
1	American Airlines	2022-06-10 06:00:00	2022-06-10 07:00:00	60	112	DAY	CUU

Funciones

```

drop function if exists duracion_promedio;
delimiter $$
create function duracion_promedio()
returns float
reads sql data
begin
  declare promedio float default 0.0;
  select sum(duracion) / sum(1) into promedio from vuelo;
return promedio;
end $$
select duracion_promedio() as "Minutos promedio";

```

```

1 drop function if exists duracion_promedio;
2 delimiter $$
3 create function duracion_promedio()
4 returns float
5 reads sql data
6 begin
7     declare promedio float default 0.0;
8     select sum(duracion) / sum(1) into promedio from vuelo;
9     return promedio;
10 end $$

```

Output

#	Time	Action	Message	Duration / Fetch
1	12:11:49	drop function if exists duracion_promedio	0 row(s) affected	0.000 sec
2	12:11:49	create function duracion_promedio() returns float reads sql data begin declare promedio float default 0.0; select ...	0 row(s) affected	0.000 sec

```

11 select duracion_promedio() as "Minutos promedio";

```

Result Grid

Minutos promedio
408

Output

#	Time	Action	Message	Duration / Fetch
1	12:12:22	select duracion_promedio() as "Minutos promedio" LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

```

drop function if exists pasajeros_por_aerolinea;
delimiter $$
create function pasajeros_por_aerolinea(
    airline varchar(50)
)
returns int
reads sql data
begin
    declare pasajeros float default 0;
    select count(1) into pasajeros from vuelo v
    join pasajero vuelo pv on pv.idVuelo = v.id
    where aerolinea = airline;
return pasajeros;
end $$
select pasajeros_por_aerolinea("American Airlines") as "Pasajeros";

```

```

13 drop function if exists pasajeros_por_aerolinea;
14 delimiter $$
15 create function pasajeros_por_aerolinea(
16     airline varchar(50)
17 )
18 returns int
19 reads sql data
20 begin
21     declare pasajeros float default 0;
22     select count(1) into pasajeros from vuelo v
23     join pasajero vuelo pv on pv.idVuelo = v.id
24     where aerolinea = airline;
25     return pasajeros;
26 end $$

```

Output

#	Time	Action	Message	Duration / Fetch
1	12:13:10	drop function if exists pasajeros_por_aerolinea	0 row(s) affected	0.000 sec
2	12:13:10	create function pasajeros_por_aerolinea(airline varchar(50)) returns int reads sql data begin declare pasajeros flo...	0 row(s) affected	0.000 sec

```

27 select pasajeros_por_aerolinea("American Airlines") as "Pasajeros";
28

```

Result Grid

Pasajeros
1

Output

#	Time	Action	Message	Duration / Fetch
1	12:13:51	select pasajeros_por_aerolinea("American Airlines") as "Pasajeros" LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

```

drop function if exists vuelo_mas_barato;
delimiter $$
create function vuelo_mas_barato()
returns float
reads sql data
begin
    declare price float default 0;
    select min(precio) into price from ticket;
    set price = 1.16 * price; #Taxes
    return price;
end $$
delimiter ;
select vuelo_mas_barato() as "Ofertas";

```

```

29 drop function if exists vuelo_mas_barato;
30 delimiter $$
31 • create function vuelo_mas_barato()
32 returns float
33 reads sql data
34 begin
35     declare price float default 0;
36     select min(precio) into price from ticket;
37     set price = 1.16 * price; #Taxes
38     return price;
39 end $$
40 delimiter ;

```

Output

#	Time	Action	Message	Duration / Fetch
1	12:14:30	drop function if exists vuelo_mas_barato	0 row(s) affected	0.000 sec
2	12:14:30	create function vuelo_mas_barato() returns float reads sql data begin declare price float default 0; select min(preci...	0 row(s) affected	0.000 sec

41 • select vuelo_mas_barato() as "Ofertas";

Result Grid

Ofertas
129.92

Output

#	Time	Action	Message	Duration / Fetch
1	12:15:07	select vuelo_mas_barato() as "Ofertas" LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

Triggers

```

drop trigger if exists audit_insert;
delimiter $$
create trigger audit_insert
after insert on pasajeroavuelo
for each row
begin
    insert into audit VALUES ("Insert", now(), new.carp);
end $$
delimiter ;
INSERT INTO `flights`.`pasajeroavuelo` (`carp`, `idVuelo`) VALUES ("R0JK070927MHGBMRA6", 5);

```

```

1 • drop trigger if exists audit_insert;
2 delimiter $$
3 • create trigger audit_insert
4 after insert on pasajeroavuelo
5 for each row
6 begin
7     insert into audit VALUES ("Insert", now(), new.carp);
8 end $$
9 delimiter ;

```

Output

#	Time	Action	Message	Duration / Fetch
1	12:16:15	drop trigger if exists audit_insert	0 row(s) affected	0.016 sec
2	12:16:15	create trigger audit_insert after insert on pasajeroavuelo for each row begin insert into audit VALUES ("Insert", now(...	0 row(s) affected	0.000 sec

```

drop trigger if exists audit_update;
delimiter $$
create trigger audit_update
after update on pasajeroVuelo
for each row
begin
    insert into audit values ("Update", now(), new.curp);
end $$
delimiter ;
update pasajeroVuelo set idVuelo = 3 where (curp = 'R0JK070927MHGBMRA6' and idVuelo = '5');

```

```

12 • drop trigger if exists audit_update;
13   delimiter $$
14 • create trigger audit_update
15   after update on pasajeroVuelo
16   for each row
17   begin
18       insert into audit values ("Update", now(), new.curp);
19   end $$
20   delimiter ;

```

Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
1	12:17:08	drop trigger if exists audit_update	0 row(s) affected	0.015 sec
2	12:17:08	create trigger audit_update after update on pasajeroVuelo for each row begin insert into audit values ("Update", n...	0 row(s) affected	0.000 sec

```

drop trigger if exists audit_delete;
delimiter $$
create trigger audit_delete
after delete on pasajeroVuelo
for each row
begin
    insert into audit values ("Delete", now(), old.curp);
end $$
delimiter ;
delete from pasajeroVuelo where (curp = 'R0JK070927MHGBMRA6' and idVuelo = '3');

```

```

23 • drop trigger if exists audit_delete;
24   delimiter $$
25 • create trigger audit_delete
26   after delete on pasajeroVuelo
27   for each row
28   begin
29       insert into audit values ("Delete", now(), old.curp);
30   end $$
31   delimiter ;

```

Output				
Action Output				
#	Time	Action	Message	Duration / Fetch
1	12:17:48	drop trigger if exists audit_delete	0 row(s) affected	0.000 sec
2	12:17:48	create trigger audit_delete after delete on pasajeroVuelo for each row begin insert into audit values ("Delete", now...	0 row(s) affected	0.015 sec

```

select * from audit;

```

```

34 • select * from audit;

```

Result Grid				Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
	what	when	who				
Insert		2022-06-12 11:59:00	R0JK070927MHGBMRA6				
Update		2022-06-12 12:03:28	R0JK070927MHGBMRA6				
Delete		2022-06-12 12:09:38	R0JK070927MHGBMRA6				
Insert		2022-06-12 12:16:37	R0JK070927MHGBMRA6				
Update		2022-06-12 12:16:58	R0JK070927MHGBMRA6				
Delete		2022-06-12 12:17:01	R0JK070927MHGBMRA6				

Events

```
#Guarda en una tabla auxiliar los vuelos que ya pasaron.
delimiter $$
create event registrar_vuelos_pasados
on schedule every 1 day
starts now
ends '2023-01-01'
do
  select * from vuelo where llegada < now() and id not in (select idvuelo from successfulflights);
delimiter ;
```

```
#Borra de la tabla auxiliar cada año los vuelos muy viejos.
delimiter $$
create event borrar_vuelos_pasados
on schedule every 1 year
starts now
do
  delete from vuelo where year(llegada) < year(now()) - 1;
delimiter ;
```

```
delimiter $$
create event actualizar_edad
on schedule every 1 year
starts now()
do
  update pasajero set edad = edad + 1;
delimiter ;
```

Transacciones

```
set transaction isolation level repeatable read;
start transaction;
  set FOREIGN_KEY_CHECKS=0;
  update ticket set precio = precio + 10 where 1 = 1;
  set FOREIGN_KEY_CHECKS = 1;
commit;
```

```
1 • START TRANSACTION;
2 • SET FOREIGN_KEY_CHECKS=0;
3 • update ticket set precio = precio + 10 where 1 = 1;
4 • SET FOREIGN_KEY_CHECKS = 1;
5 • COMMIT;
```

Output

#	Time	Action	Message	Duration / Fetch
1	13:54:32	START TRANSACTION	0 row(s) affected	0.000 sec
2	13:54:32	SET FOREIGN_KEY_CHECKS=0	0 row(s) affected	0.000 sec
3	13:54:32	update ticket set precio = precio + 10 where 1 = 1	5 row(s) affected Rows matched: 5 Changed: 5 Warnings: 0	0.000 sec
4	13:54:32	SET FOREIGN_KEY_CHECKS = 1	0 row(s) affected	0.000 sec
5	13:54:32	COMMIT	0 row(s) affected	0.015 sec

```
set transaction isolation level repeatable read;
start transaction;
  set FOREIGN_KEY_CHECKS=0;
  update vuelo set aerolinea = "American Airlines" where aerolinea = "AeroMexico";
  set FOREIGN_KEY_CHECKS = 1;
commit;
```

```

8 • set transaction isolation level repeatable read;
9 • start transaction;
10 • set FOREIGN_KEY_CHECKS=0;
11 • update vuelo set aerolinea = "American Airlines" where aerolinea = "AeroMexico";
12 • set FOREIGN_KEY_CHECKS = 1;
13 • commit;

```

Output

#	Time	Action	Message	Duration / Fetch
1	14:01:10	set transaction isolation level repeatable read	0 row(s) affected	0.015 sec
2	14:01:10	start transaction	0 row(s) affected	0.000 sec
3	14:01:10	set FOREIGN_KEY_CHECKS=0	0 row(s) affected	0.000 sec
4	14:01:10	update vuelo set aerolinea = "American Airlines" where aerolinea = "AeroMexico"	0 row(s) affected Rows matched: 0 Changed: 0 Warnings: 0	0.000 sec
5	14:01:10	set FOREIGN_KEY_CHECKS = 1	0 row(s) affected	0.000 sec
6	14:01:10	commit	0 row(s) affected	0.000 sec

```

set transaction isolation level repeatable read;
start transaction;
set FOREIGN_KEY_CHECKS=0;
update pasajero set direccion = "16643 NE 89th St, Redmond" where curp = "ROJL010905HMCBMSA3";
set FOREIGN_KEY_CHECKS = 1;
commit;

```

```

15 • set transaction isolation level repeatable read;
16 • start transaction;
17 • set FOREIGN_KEY_CHECKS=0;
18 • update pasajero set direccion = "16643 NE 89th St, Redmond" where curp = "ROJL010905HMCBMSA3";
19 • set FOREIGN_KEY_CHECKS = 1;
20 • commit;
21

```

Output

#	Time	Action	Message	Duration / Fetch
1	14:02:46	set transaction isolation level repeatable read	0 row(s) affected	0.000 sec
2	14:02:46	start transaction	0 row(s) affected	0.000 sec
3	14:02:46	set FOREIGN_KEY_CHECKS=0	0 row(s) affected	0.000 sec
4	14:02:46	update pasajero set direccion = "16643 NE 89th St, Redmond" where curp = "ROJL010905HMCBMSA3"	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.016 sec
5	14:02:46	set FOREIGN_KEY_CHECKS = 1	0 row(s) affected	0.000 sec
6	14:02:46	commit	0 row(s) affected	0.000 sec