**Instituto Tecnológico de Mexicali**

**Ingeniería Sistemas Computacionales**

Fundamentos de Base de Datos

**Tema:**

"Examen"

**Estudiante:**

Andrés Mojica Medina

**No. De control:** C21490782

**Docente:**

José Ramón Bogarín Valenzuela

Mexicali, B.C., 06 de Mayo de 2025.

## Parte 1: Diseño del esquema inicial

```sql
-- Tablas
CREATE TABLE Clients (
 client_id SERIAL PRIMARY KEY,
 first_name TEXT NOT NULL,
 last_name TEXT NOT NULL,
 email TEXT UNIQUE NOT NULL
);
CREATE TABLE Books (
 book_id SERIAL PRIMARY KEY,
 title TEXT NOT NULL,
 author TEXT NOT NULL,
 price DECIMAL NOT NULL
);
CREATE TABLE Employees (
 employee_id SERIAL PRIMARY KEY,
 name TEXT NOT NULL,
 branch TEXT
);
CREATE TABLE Orders (
 order_id SERIAL PRIMARY KEY,
 client_id INTEGER REFERENCES Clients(client_id),
 order_date DATE
);
CREATE TABLE OrderItems (
 item_id SERIAL PRIMARY KEY,
 order_id INTEGER REFERENCES Orders(order_id),
 book_id INTEGER REFERENCES Books(book_id),
 quantity INTEGER DEFAULT 1
);
CREATE TABLE OrderHandlers (
 handler_id SERIAL PRIMARY KEY,
 order_id INTEGER REFERENCES Orders(order_id),
 employee_id INTEGER REFERENCES Employees(employee_id)
);
```

## Parte 2: Operaciones CRUD con DML

Create

```sql
-- Insertar datos
INSERT INTO Clients (client_id, first_name, last_name, email) VALUES
('1','Andres', 'Mojica', 'andres@hotmail.com'),
('2','Juan', 'Martin', 'juan@hotmail.com'),
('3','David', 'Bowie', 'david@hotmail.com');
INSERT INTO Books (book_id, title, author, price) VALUES
('1', 'Senor de los anillos', 'juan martin','2'),
('2', 'harry potter', 'david bowie', '4'),
('3', 'witcher', 'yo', '1');
('4', 'randy orton', 'randy orton', '5');
INSERT INTO Employees (employee_id, name, branch) VALUES
('1', 'Undertaker', 'Smackdown'),
```

```
('2', 'Batista', 'Raw');
INSERT INTO Orders (order_id, client_id, order_date) VALUES
('1', '1', '2025-05-06'),
('2', '2', '2025-03-04');
INSERT INTO OrderItems (item_id, order_id, book_id, quantity) VALUES
('1', '1', '1', '2'),
('2', '2', '2', '1');
INSERT INTO OrderHandlers (handler_id, order_id, employee_id) VALUES
('1', '1', '1'),
('2', '2', '2');
```

SELECT * FROM Client | Enter a SQL expression to filter results (use Ctrl+Space)

| | client_id | first_nan | last_nam | email |
|---|---|---|---|---|
| 1 | 1 | Andres | Mojica | andres@hotm |
| 2 | 2 | Juan | Martin | juan@hotmail |
| 3 | 3 | David | Bowie | david@hotma |

SELECT * FROM Employees | Enter a SQL expression to fi

| | employee_id | name | branch |
|---|---|---|---|
| 1 | 1 | Undertaker | Smackdown |
| 2 | 2 | Batista | Raw |

SELECT * FROM Orders | Enter a SQL expression to filter r

| | order_id | client_id | order_date |
|---|---|---|---|
| 1 | 1 | 1 | 2025-05-06 |
| 2 | 2 | 2 | 2025-03-04 |

SELECT * FROM OrderItems | Enter a SQL expression to filter results (us

| item_id | order_id | book_id | quantity |
|---------|----------|---------|----------|
| 1 | 1 | 1 | 2 |
| 2 | 2 | 2 | 1 |

SELECT * FROM OrderHandlers | Enter a SQL expression to fi

| handler_id | order_id | employee_id |
|------------|----------|-------------|
| 1 | 1 | 1 |
| 2 | 2 | 2 |

Read

```
-- Read
SELECT b.title, oi.quantity
FROM OrderItems oi
JOIN Books b ON oi.book_id = b.book_id
WHERE oi.order_id = 1;
```

SELECT b.title, oi.quantity FROM Order | Ent

| title | quantity |
|-------|----------|
| Senor de los anillos | 2 |