Álgebra Relacional

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1 Operaciones

1. genres ← genres ∪ E

2. authors ← authors ∪ E

3. patrons ← patrons ∪ E

4. reservations ← reservations ∪ E

5. books ← books ∪ E

6. σ(genres)

7. σ id=1 (genres)

8. Π id_books, id_patrons (reservations)

9. σ genres.name = 'terror' (genres ⋈ books)

2 SQL

1. INSERT INTO genres VALUES (1, 'Terror');

2. INSERT INTO authors VALUES (1, 'Lovecraft', '1890-08-20', 'Estadounidense');

3. INSERT INTO patrons VALUES (1, 'Hassiel', 'ejemplo1@uaeh.edu.mx', '777 777 771');

4. INSERT INTO reservations VALUES (1, 1, 1, '2025-08-11', 'example1@gmail.com');

5. INSERT INTO books VALUES (1, 'El llamado de chutulu', '191-555-1', 1, 1);

```
mysql> INSERT INTO genres VALUES (1, 'Terror');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO authors VALUES (1, 'Lovecraft', '1890-08-20', 'Estadounidense');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO patrons VALUES (1, 'Hassiel', 'ejemplo1@uaeh.edu.mx', '777 777 771');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO reservations VALUES (1, 1, 1, '2025-08-11', 'example1@gmail.com');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO books VALUES (1, 'El llamado de chutulu', '191-555-1', 1, 1);
Query OK, 1 row affected (0.01 sec)
```

6. SELECT * FROM genres;

```
mysql> SELECT * FROM genres;
+----------+----------+
| id_genres | name     |
+----------+----------+
|        1 | Terror   |
|        2 | Romance  |
|        3 | Comedia  |
|        4 | Historia |
|        5 | Aventura |
+----------+----------+
5 rows in set (0.00 sec)
```

7. SELECT * FROM books WHERE id_books = 1;

```
mysql> SELECT * FROM books WHERE id_books = 1;
+----------+---------------------+-----------+-----------+------------+
| id_books | title               | isbn      | id_genres | id_authors |
+----------+---------------------+-----------+-----------+------------+
|        1 | El llamado de chutulu | 191-555-1 |         1 |          1 |
+----------+---------------------+-----------+-----------+------------+
1 row in set (0.00 sec)
```

8. SELECT id_books, id_patrons FROM reservations;

```
mysql> SELECT id_books, id_patrons FROM reservations;
+----------+------------+
| id_books | id_patrons |
+----------+------------+
|        1 |          1 |
|        2 |          2 |
|        3 |          3 |
|        4 |          4 |
|        5 |          5 |
+----------+------------+
5 rows in set (0.00 sec)
```

9. SELECT * FROM genres JOIN books ON genres.id_genres = books.id_genres WHERE genres.name = 'Terror';

```
mysql> SELECT * FROM genres JOIN books ON genres.id_genres = books.id_genres WHERE genres.name = 'Terror';
+-----------+--------+----------+---------------------+----------------+-----------+------------+
| id_genres | name   | id_books | title               | isbn           | id_genres | id_authors |
+-----------+--------+----------+---------------------+----------------+-----------+------------+
|         1 | Terror |        1 | El llamado de chutulu | 191-555-1      |         1 |          1 |
|         1 | Terror |        4 | It                  | 978-1501142970 |         1 |          4 |
+-----------+--------+----------+---------------------+----------------+-----------+------------+
2 rows in set (0.03 sec)
```