Library Management System - Project Part E: Physical Database Design

EECS447: Database Systems
Team Name: ASYNCLIB
Team Members: Nick, Ashton, Cole, Sean, Yadhunath

Professor: Hossein Saiedian
Semester: Fall 2025

Revisions

Version: 1.12

Version	Date	Author	Description
1.12	10/31/25	Nick, Ashton, Cole, Sean, Yadhunath	Defining the Database in PostgreSQL.
1.13	11/7/25	Nick, Ashton, Cole, Sean, Yadhunath	Creating the data to be imported into the Library Database.
1.14	11/12/25	Nick, Ashton, Cole, Sean, Yadhunath	Creating SQL DDL Queries to add the data that was created.

Project Overview:

This Library Management System (LMS) project aims to efficiently manage extensive book information, memberships, clientele, profiles, and accounts. Its database consolidates a vast amount of data, presenting it through an intuitive and easily navigable interface for user convenience.

Scope:

❖ This project focuses on developing a comprehensive resource management system for books and magazines. It will store key details such as title, author, ISBN/issue number, publication date, genre, and availability.

❖ Additionally, the system will feature a client and membership management component. This will include unique IDs, contact information, various membership categories (regular, student, senior, none), and defined borrowing restrictions.

❖ A tracking system will be implemented to manage borrowed, returned, and reserved media. This system will record timestamps, client details, and enforce rules regarding borrowing limits and late return fees.

❖ Finally, a user interface will be developed to enable staff to efficiently manage operations. This includes checking out and returning items, adding new resources, managing client accounts, calculating fines, and viewing both resource availability and client profiles.

Glossary

❖ *Primary Key*: A candidate key that is chosen by the database designer to uniquely identify each tuple in a relation. It is a minimal key, meaning it uniquely identifies a tuple but no proper subset of its attributes can uniquely identify a tuple.

❖ *Foreign Key:* A foreign key is a field (or collection of fields) in one table that uniquely identifies a row of another table.

❖ *Relationship:* An association between two or more entities or tables in a database that represents how these entities are connected.

Platform:

Our team selected PostgreSQL as our database product. Our team's familiarity with PostgreSQL and the portability and accessibility of the product were contributing factors to the selection of PostgreSQL as our database product.

Code:

TYPES:

```
CREATE TYPE media_type AS ENUM ('book','media','magazine');
CREATE TYPE membership_type AS ENUM ('student','educator','public','staff');
CREATE TYPE availability AS ENUM ('checked_out','reserved','available');
```

RELATIONS (TABLES):

```
CREATE TABLE reservations (
      reservation_id SERIAL PRIMARY KEY,
      item_id int REFERENCES items(item_id) ON DELETE CASCADE,
      user_id int REFERENCES client(clid),
      date_of_reservation TIMESTAMP DEFAULT NOW()
);

CREATE TABLE borrowing (
      borrowing_id SERIAL PRIMARY KEY,
      item_id int REFERENCES items(item_id) ON DELETE CASCADE,
      user_id int REFERENCES client(clid),
      date_of_checkout TIMESTAMP DEFAULT NOW(),
      turned_in bool NOT NULL DEFAULT false
);

CREATE TABLE clients (
      clid SERIAL PRIMARY KEY,
      firstname VARCHAR(20) NOT NULL,
      lastname VARCHAR(20) NOT NULL,
      email VARCHAR(50),
      phone BIGINT,
      account_status VARCHAR(10) CHECK (account_status IN ('active',
'inactive')),
    member_type membership_type REFERENCES Membership_Types(member_type)
);

CREATE TABLE membership_Types(
      member_type membership_type PRIMARY KEY,
      checkout_length INT NOT NULL,
      late_fee DECIMAL(5,2) NOT NULL,
```

```
        borrowing_limit INT NOT NULL
);
CREATE TABLE items (
        item_id SERIAL PRIMARY KEY,
        title VARCHAR(100) NOT NULL,
        publisher VARCHAR(50),
        publication_date DATE,
        type media_type NOT NULL,
);

CREATE TABLE books(
        genre VARCHAR(20),
        item_id INT REFERENCES items(item_id) ON DELETE CASCADE,
        author_firstname VARCHAR(50),
        author_lastname VARCHAR(50),
        ISBN INT
);

CREATE TABLE media (
        item_id INT PRIMARY KEY REFERENCES items(item_id) ON DELETE CASCADE,
        director_first VARCHAR(50),
        director_last VARCHAR(50)
);

CREATE TABLE magazine (
        item_id INT PRIMARY KEY REFERENCES items(item_id) ON DELETE CASCADE,
        issue_number INT NOT NULL
);
```

VIEWS:

```
CREATE VIEW member_permissions AS
SELECT
    c.clid,
    c.firstname AS client_firstname,
    c.lastname AS client_lastname,
    mt.member_type,
    mt.late_fee,
    mt.borrowing_limit
FROM clients c
JOIN membership_Types mt
    ON c.member_type = mt.member_type;

CREATE VIEW checkout_information AS
SELECT
    c.clid,
    c.firstname || ' ' || c.lastname AS client_name,
    c.member_type,
    i.title AS item_title,
```

```sql
    b.date_of_checkout,
    m.checkout_length,
    (b.date_of_checkout + m.checkout_length * INTERVAL '1 day') AS due_date,
    b.turned_in,
    ((b.date_of_checkout + m.checkout_length * INTERVAL '1 day') <
CURRENT_DATE) AS late
FROM borrowing AS b
JOIN clients AS c
    ON b.client_id = c.clid
JOIN membership_types AS m
    ON c.member_type = m.member_type
JOIN items AS i
    ON b.item_id = i.item_id

CREATE VIEW available_items AS
SELECT i.*
FROM items AS i
WHERE NOT EXISTS (
    SELECT 1
    FROM borrowing AS b
    WHERE b.item_id = i.item_id
      AND b.turned_in = true
);

-- The 'hold_shelf' view is an abstraction of a real hold shelf in a library.
--It returns the most recent hold/reservation for any items that are not
--currently checked out (are in the library).

CREATE OR REPLACE VIEW hold_shelf AS
WITH latest_res AS (
    SELECT r.*
    FROM reservations r
    INNER JOIN (
        SELECT item_id, MAX(date_of_reservation) AS max_date
        FROM reservations
        GROUP BY item_id
    ) AS lr
    ON r.item_id = lr.item_id
    AND r.date_of_reservation = lr.max_date
)
SELECT
    ai.item_id,
    ai.title,
    ai.type,
    lr.date_of_reservation,
    c.clid AS client_id,
    c.firstname || ' ' || c.lastname AS client_name
FROM available_items ai
JOIN latest_res AS lr
```

```
    ON lr.item_id = ai.item_id
JOIN clients c
    ON c.clid = lr.user_id;
```

COMMON QUERIES:

```
SELECT * FROM checkout_information WHERE turned_in = 'false';

SELECT * FROM checkout_information WHERE late = 'true';

SELECT
      i.title,
      i.publisher,
      b.author_firstname,
      b.author_lastname,
      i.publication_date,
      b.isbn
FROM available_items as i
NATURAL JOIN books as b;

--(and similar queries for media and magazine tables to join their specific
attributes)
```

Table Contents:

Items:

	item_id [PK] integer	title character varying (100)	publisher character varying (50)	publication_date date	type media_type
4	29	To Kill a Mockingbird	Crescent Works	2007-01-30	book
5	30	1984	Redwood House	1995-12-24	book
6	31	Pride and Prejudice	Crescent Works	2013-10-23	book
7	32	The Great Gatsby	Starlight Publishing	2011-12-13	book
8	33	Moby-Dick	Starlight Publishing	2016-05-24	book
9	34	War and Peace	Crescent Works	2020-08-10	book
10	35	The Catcher in the Rye	Silverline Media	2015-06-07	book
11	36	The Hobbit	Riverbend	2020-05-21	book
12	37	Fahrenheit 451	Crescent Works	1991-11-30	book
13	38	Brave New World	Crescent Works	1999-02-21	book
14	39	The Lord of the Rings	Northstar Press	2013-04-07	book
15	40	Jane Eyre	Oak & Ivy	1995-10-17	book
16	41	Wuthering Heights	Northstar Press	2016-09-16	book
17	42	Crime and Punishment	Silverline Media	1991-08-31	book
18	43	The Picture of Dorian Gray	Northstar Press	2020-09-04	book
19	44	Great Expectations	Maple Leaf Publishing	1996-05-30	book
20	45	The Grapes of Wrath	Oak & Ivy	1996-02-04	book
21	46	One Hundred Years of Solitu...	Harbor Press	2018-09-23	book
22	47	The Alchemist	Riverbend	2008-02-16	book
23	48	The Handmaid's Tale	Northstar Press	1992-07-03	book
24	49	The Kite Runner	Crescent Works	1995-07-31	book
25	50	The Da Vinci Code	Blue Horizon	1997-10-24	book
26	51	The Girl with the Dragon Tatt...	Redwood House	2015-03-01	book
27	52	The Fault in Our Stars	Redwood House	2001-07-22	book
28	53	A Game of Thrones	Maple Leaf Publishing	2012-06-26	book
29	54	Echoes of Tomorrow	Harbor Press	2005-02-19	media
30	55	Midnight Parallax	Oak & Ivy	2007-12-01	media
31	56	The Last Beacon	Riverbend	1994-02-27	media
32	57	Velvet Circuit	Crescent Works	2024-07-30	media
33	58	Irons in the Sky	Redwood House	2019-04-23	media
34	59	Lanterns on the Shore	Oak & Ivy	1999-10-22	media

35	60	Fractured Meridian	Redwood House	2007-03-17	media
36	61	Hollow Crown Protocol	Northstar Press	2008-11-21	media
37	62	Stardust Courier	Blue Horizon	2020-09-19	media
38	63	Ash & Ember	Silverline Media	2001-07-09	media
39	64	The Quiet Algorithm	Starlight Publishing	1997-02-24	media
40	65	Harbor of Glass	Starlight Publishing	2017-10-02	media
41	66	Neon Orchard	Redwood House	2007-01-15	media
42	67	Gilded Static	Harbor Press	2019-12-04	media
43	68	Paper Planets	Redwood House	2019-10-31	media
44	69	The Winter Frequency	Blue Horizon	2019-06-25	media
45	70	Clockwork Letters	Redwood House	2008-04-24	media
46	71	Paint the Horizon	Harbor Press	1995-01-15	media
47	72	Sundial City	Harbor Press	2013-06-03	media
48	73	The Lattice Road	Silverline Media	2012-12-05	media
49	74	Remembering Andromeda	Crescent Works	2010-12-30	media
50	75	The Mapmaker's Son	Starlight Publishing	2024-06-11	media
51	76	Axiom Blue	Redwood House	2023-02-28	media
52	77	Songs from the Basement	Maple Leaf Publishing	2016-01-16	media
53	78	Blackbird Station	Blue Horizon	2006-07-25	media
54	79	Urban Atlas	Starlight Publishing	2015-10-16	magazine
55	80	Tech Horizons	Maple Leaf Publishing	2025-08-07	magazine
56	81	Green & Grain	Silverline Media	2001-11-17	magazine
57	82	Northwind Traveler	Silverline Media	1995-11-11	magazine
58	83	Byte & Beam	Crescent Works	2008-10-04	magazine
59	84	Culinary Canvas	Silverline Media	2006-02-21	magazine
60	85	Modern Homestead	Blue Horizon	2010-10-11	magazine
61	86	Summit Review	Crescent Works	1998-03-29	magazine
62	87	Artisan Quarterly	Northstar Press	2019-10-31	magazine
63	88	Harbor Living	Riverbend	2000-09-30	magazine
64	89	Circuit Journal	Harbor Press	1995-02-25	magazine
65	90	Well & Good	Northstar Press	1993-03-28	magazine
66	91	Frame by Frame	Harbor Press	2015-07-21	magazine
67	92	Garden & Grove	Blue Horizon	2018-06-02	magazine
68	93	City Sound	Oak & Ivy	2008-07-26	magazine

Books:

	genre character varying (20)	item_id integer	author_firstname character varying (50)	author_lastname character varying (50)	isbn bigint
1	Salinger	1	Young Adult	J.D.	9783462015393
2	Foster-Wallace	2	Postmodern	David	9780316920049
3	Crosby	3	Business	Philib B.	9780070145122
4	Mystery	29	Harper	Lee	1247242720
5	Fantasy	30	George	Orwell	1782791100
6	Romance	31	Jane	Austen	1096460984
7	Biography	32	F. Scott	Fitzgerald	1775483847
8	History	33	Herman	Melville	1882965198
9	Mystery	34	Leo	Tolstoy	1495513911
10	Nonfiction	35	J.D.	Salinger	1769529290
11	Education	36	J.R.R.	Tolkien	1339709088
12	Romance	37	Ray	Bradbury	1008181695
13	Romance	38	Aldous	Huxley	1086775979
14	Education	39	J.R.R.	Tolkien	1055102070
15	Mystery	40	Charlotte	Brontë	1802630928
16	Romance	41	Emily	Brontë	1708991357
17	Fiction	42	Fyodor	Dostoevsky	1183810887
18	Nonfiction	43	Oscar	Wilde	1456791494
19	Fiction	44	Charles	Dickens	1409161680
20	Biography	45	John	Steinbeck	1215601357
21	Education	46	Gabriel	García Márquez	1276570743
22	History	47	Paulo	Coelho	1746249394
23	Mystery	48	Margaret	Atwood	1652872139
24	Nonfiction	49	Khaled	Hosseini	1154256338
25	Biography	50	Dan	Brown	1156241727
26	Education	51	Stieg	Larsson	1856809041
27	History	52	John	Green	1199664370
28	Fiction	53	George R.R.	Martin	1628882569

Media:

	item_id [PK] integer	director_first character varying (50)	director_last character varying (50)	media_type character varying (3)
1	54	Quinn	Davis	dvd
2	55	Quinn	Martinez	dvd
3	56	Alex	Martinez	blu
4	57	Casey	Garcia	dvd
5	58	Riley	Johnson	dvd
6	59	Sam	Rodriguez	blu
7	60	Avery	Johnson	dvd
8	61	Jordan	Wilson	dvd
9	62	Avery	Wilson	blu
10	63	Riley	Davis	dvd
11	64	Quinn	Clark	dvd
12	65	Jamie	Miller	blu
13	66	Casey	Martinez	dvd
14	67	Jamie	Garcia	dvd
15	68	Taylor	Clark	blu
16	69	Jamie	Rodriguez	dvd
17	70	Sam	Davis	dvd
18	71	Parker	Brown	blu
19	72	Sam	Rodriguez	dvd
20	73	Casey	Garcia	dvd
21	74	Parker	Clark	dvd
22	75	Reese	Garcia	blu
23	76	Jordan	Garcia	dvd
24	77	Alex	Davis	dvd
25	78	Sam	Rodriguez	blu

Magazines:

	item_id [PK] integer	issue_number integer
1	79	100
2	80	205
3	81	169
4	82	445
5	83	489
6	84	107
7	85	433
8	86	294
9	87	39
10	88	268
11	89	408
12	90	336
13	91	273
14	92	299
15	93	85
16	94	204
17	95	262
18	96	82
19	97	397
20	98	60
21	99	142
22	100	471
23	101	89
24	102	42
25	103	423

Clients:

clid [PK] integer	email character varying (50)	phone bigint	member_type membership_type	firstname character varying (20)	lastname character varying (20)
1	homersimps@gmail.com	8888123232	public	Homer	Simpson
2	lisasimps@gmail.com	8881234567	student	Lisa	Simpson
3	yousuck@gmail.com	8889130022	student	Bart	Simpson
4	allthingsmustpass@gmail.com	9911234453	public	George	Harrison
5	wingsisbest@gmail.com	9324445321	public	Paul	McCartney
7	catcherintheryefan36@gmail.c…	9433219832	public	John	Lennon
8	hellodarkness@yahoo.com	2236547622	educator	Paul	Simon
9	myoldfriend@outlook.com	6749998221	educator	Art	Garfunkle
10	letsrock@aol.com	6732221131	staff	David	Lynch
11	saiedian@ku.edu	7159998888	educator	Hossein	Saiedian
12	arrakis4eva@gmail.com	9993241235	public	Paul	Atreides
13	palemoon@gmail.com	2710982231	staff	Nick	Drake
14	iheartet@gmail.com	3822314453	public	Steven	Speilberg
15	familyguy@aol.com	2823331123	public	Peter	Griffin
16	petah@gmail.com	4553213452	educator	Lois	Griffin
17	gotthatdoginme@gmail.com	3889002321	student	Stewie	Griffin
18	meggriffin@gmail.com	2833102332	student	Meg	Griffin
19	thisdaintfree@gmail.com	8442193424	public	Kendrick	Lamar
20	thefalloff@aol.com	3933442143	public	Jermaine	Cole
21	anitamaxwin@gmail.com	8391123213	public	Aubrey	Graham
22	mbdtf@outlook.com	2341244212	public	Kanye	West
23	pinkfriday@gmail.com	2342248423	educator	Nicki	Minaj
24	slimshady@aol.com	3435664731	public	Marshal	Mathers
25	theblueprint@gmail.com	7774231234	staff	Shawn	Carter
26	cowboycarter@gmail.com	3482258663	public	Beyonce	Knowles
6	bestbeatle@gmail.com	9321677852	public	Ringo	Starr
27	o.martinez@example.com	5551234567	student	Olivia	Martinez
28	l.garcia@example.com	5552345678	public	Liam	Garcia
29	e.smith@example.com	5553456789	educator	Emma	Smith
30	n.johnson@example.com	5554567890	staff	Noah	Johnson
31	s.williams@example.com	5555678901	student	Sophia	Williams
32	w.brown@example.com	5556789012	public	William	Brown
33	a.jones@example.com	5557890123	educator	Ava	Jones
34	j.miller@example.com	5558901234	staff	James	Miller
35	i.davis@example.com	5559012345	student	Isabella	Davis
36	o.rodriguez@example.com	5550123456	public	Oliver	Rodriguez
37	c.wilson@example.com	5551234568	educator	Charlotte	Wilson
38	b.moore@example.com	5552345679	staff	Benjamin	Moore
39	a.taylor@example.com	5553456780	student	Amelia	Taylor
40	l.anderson@example.com	5554567891	public	Lucas	Anderson
41	m.thomas@example.com	5555678902	educator	Mia	Thomas
42	h.jackson@example.com	5556789013	staff	Henry	Jackson
43	h.white@example.com	5557890124	student	Harper	White
44	a.harris@example.com	5558901235	public	Alexander	Harris
45	e.martin@example.com	5559012346	educator	Evelyn	Martin
46	m.thompson@example.com	5550123457	staff	Michael	Thompson
47	a.lee@example.com	5551234569	student	Abigail	Lee
48	d.walker@example.com	5552345670	public	Daniel	Walker
49	e.perez@example.com	5553456781	educator	Emily	Perez
50	m.hall@example.com	5554567892	staff	Matthew	Hall

Borrowing:

	item_id integer	client_id integer	date_of_checkout timestamp without time zone	turned_in boolean	checkout_id [PK] integer
1	35	1	2025-11-05 00:00:00	true	1
2	37	3	2025-10-11 00:00:00	true	2
3	38	21	2025-11-16 00:00:00	false	3
4	43	45	2025-11-16 00:00:00	false	4
5	44	8	2025-09-15 00:00:00	false	5
6	51	35	2025-11-16 00:00:00	false	6
7	53	45	2025-11-16 00:00:00	false	7
8	55	10	2025-11-01 00:00:00	false	8
9	57	38	2025-10-19 00:00:00	false	9
10	60	28	2025-11-12 00:00:00	false	10
11	61	42	2025-11-16 00:00:00	false	11
12	62	9	2025-10-21 00:00:00	false	12
13	63	28	2025-11-14 00:00:00	false	13
14	64	14	2023-01-01 00:00:00	false	14
15	66	21	2025-11-11 00:00:00	false	15
16	67	4	2025-10-29 00:00:00	false	16
17	68	50	2025-10-29 00:00:00	false	17
18	69	20	2025-11-11 00:00:00	false	18
19	70	2	2025-11-11 00:00:00	false	19
20	72	48	2025-11-16 00:00:00	false	20
21	73	36	2025-11-11 00:00:00	false	21
22	79	10	2025-11-11 00:00:00	false	22
23	80	36	2023-01-01 00:00:00	false	23
24	81	16	2025-11-16 00:00:00	false	24
25	82	31	2025-09-02 00:00:00	true	25
26	84	21	2025-11-16 00:00:00	false	26
27	86	37	2025-11-16 00:00:00	false	27

Reservations:

	item_id integer	user_id integer	date_of_reservation timestamp without time zone	reservation_id [PK] integer
1	58	43	2025-11-05 00:00:00	1
2	85	10	2025-10-11 00:00:00	2
3	64	29	2025-11-16 00:00:00	3
4	47	49	2025-11-16 00:00:00	4
5	47	40	2025-09-15 00:00:00	5
6	91	2	2025-11-16 00:00:00	6
7	56	25	2025-11-16 00:00:00	7
8	66	30	2025-11-01 00:00:00	8
9	40	6	2025-10-19 00:00:00	9
10	66	5	2025-11-12 00:00:00	10
11	60	35	2025-11-16 00:00:00	11
12	79	37	2025-10-21 00:00:00	12
13	63	5	2025-11-14 00:00:00	13
14	69	8	2023-01-01 00:00:00	14
15	45	39	2025-11-11 00:00:00	15
16	86	39	2025-10-29 00:00:00	16
17	38	8	2025-10-29 00:00:00	17
18	90	16	2025-11-11 00:00:00	19
19	73	10	2025-11-16 00:00:00	20
20	49	46	2025-11-11 00:00:00	21
21	53	15	2025-11-11 00:00:00	22
22	59	46	2023-01-01 00:00:00	23
23	82	7	2025-11-16 00:00:00	24
24	77	27	2025-09-02 00:00:00	25
25	82	23	2025-11-16 00:00:00	26
26	52	39	2025-11-16 00:00:00	27

Checkout Information:

	clid (integer)	client_name (text)	member_type (membership_type)	item_title (character varying (100))	date_of_checkout (timestamp without time zone)	checkout_length (integer)	due_date (timestamp without time zone)	turned_in (boolean)	late (boolean)
1	1	Homer Simps...	public	The Catcher in the Rye	2025-11-05 00:00:00	14	2025-11-19 00:00:00	true	false
2	3	Bart Simpson	student	Fahrenheit 451	2025-10-11 00:00:00	21	2025-11-01 00:00:00	true	true
3	21	Aubrey Graham	public	Brave New World	2025-11-16 00:00:00	14	2025-11-30 00:00:00	false	false
4	45	Evelyn Martin	educator	The Picture of Dorian Gray	2025-11-16 00:00:00	31	2025-12-17 00:00:00	false	false
5	8	Paul Simon	educator	Great Expectations	2025-09-15 00:00:00	31	2025-10-16 00:00:00	false	true
6	35	Isabella Davis	student	The Girl with the Dragon Tatt...	2025-11-16 00:00:00	21	2025-12-07 00:00:00	false	false
7	45	Evelyn Martin	educator	A Game of Thrones	2025-11-16 00:00:00	31	2025-12-17 00:00:00	false	false
8	10	David Lynch	staff	Midnight Parallax	2025-11-01 00:00:00	31	2025-12-02 00:00:00	false	false
9	38	Benjamin Moo...	staff	Velvet Circuit	2025-10-19 00:00:00	31	2025-11-19 00:00:00	false	false
10	28	Liam Garcia	public	Fractured Meridian	2025-11-12 00:00:00	14	2025-11-26 00:00:00	false	false
11	42	Henry Jackson	staff	Hollow Crown Protocol	2025-11-16 00:00:00	31	2025-12-17 00:00:00	false	false
12	9	Art Garfunkle	educator	Stardust Courier	2025-10-21 00:00:00	31	2025-11-21 00:00:00	false	false
13	28	Liam Garcia	public	Ash & Ember	2025-11-14 00:00:00	14	2025-11-28 00:00:00	false	false
14	14	Steven Speilb...	public	The Quiet Algorithm	2023-01-01 00:00:00	14	2023-01-15 00:00:00	false	true
15	21	Aubrey Graham	public	Neon Orchard	2025-11-11 00:00:00	14	2025-11-25 00:00:00	false	false
16	4	George Harris...	public	Gilded Static	2025-10-29 00:00:00	14	2025-11-12 00:00:00	false	true
17	50	Matthew Hall	staff	Paper Planets	2025-10-29 00:00:00	31	2025-11-29 00:00:00	false	false
18	20	Jermaine Cole	public	The Winter Frequency	2025-11-11 00:00:00	14	2025-11-25 00:00:00	false	false
19	2	Lisa Simpson	student	Clockwork Letters	2025-11-11 00:00:00	21	2025-12-02 00:00:00	false	false
20	48	Daniel Walker	public	Sundial City	2025-11-16 00:00:00	14	2025-11-30 00:00:00	false	false
21	36	Oliver Rodrigu...	public	The Lattice Road	2025-11-11 00:00:00	14	2025-11-25 00:00:00	false	false
22	10	David Lynch	staff	Urban Atlas	2025-11-11 00:00:00	31	2025-12-12 00:00:00	false	false
23	36	Oliver Rodrigu...	public	Tech Horizons	2023-01-01 00:00:00	14	2023-01-15 00:00:00	false	true
24	16	Lois Griffin	educator	Green & Grain	2025-11-16 00:00:00	31	2025-12-17 00:00:00	false	false
25	31	Sophia Williams	student	Northwind Traveler	2025-09-02 00:00:00	21	2025-09-23 00:00:00	true	true
26	21	Aubrey Graham	public	Culinary Canvas	2025-11-16 00:00:00	14	2025-11-30 00:00:00	false	false
27	37	Charlotte Wils...	educator	Summit Review	2025-11-16 00:00:00	31	2025-12-17 00:00:00	false	false

Hold Shelf:

	item_id (integer)	title (character varying (100))	type (media_type)	date_of_reservation (timestamp without time zone)	client_id (integer)	client_name (text)
1	58	Irons in the Sky	media	2025-11-05 00:00:00	43	Harper White
2	85	Modern Homestead	magazine	2025-10-11 00:00:00	10	David Lynch
3	47	The Alchemist	book	2025-11-16 00:00:00	49	Emily Perez
4	91	Frame by Frame	magazine	2025-11-16 00:00:00	2	Lisa Simpson
5	56	The Last Beacon	media	2025-11-16 00:00:00	25	Shawn Carter
6	40	Jane Eyre	book	2025-10-19 00:00:00	6	Ringo Starr
7	45	The Grapes of Wrath	book	2025-11-11 00:00:00	39	Amelia Taylor
8	90	Well & Good	magazine	2025-11-11 00:00:00	16	Lois Griffin
9	49	The Kite Runner	book	2025-11-11 00:00:00	46	Michael Thomps...
10	59	Lanterns on the Shore	media	2023-01-01 00:00:00	46	Michael Thomps...
11	82	Northwind Traveler	magazine	2025-11-16 00:00:00	7	John Lennon
12	77	Songs from the Basem...	media	2025-09-02 00:00:00	27	Olivia Martinez
13	82	Northwind Traveler	magazine	2025-11-16 00:00:00	23	Nicki Minaj
14	52	The Fault in Our Stars	book	2025-11-16 00:00:00	39	Amelia Taylor

Available Items:

	item_id (integer)	title (character varying (100))	publisher (character varying (50))	publication_date (date)	type (media_type)
1	29	To Kill a Mockingbird	Crescent Works	2007-01-30	book
2	30	1984	Redwood House	1995-12-24	book
3	31	Pride and Prejudice	Crescent Works	2013-10-23	book
4	32	The Great Gatsby	Starlight Publishing	2011-12-13	book
5	33	Moby-Dick	Starlight Publishing	2016-05-24	book
6	34	War and Peace	Crescent Works	2020-08-10	book
7	35	The Catcher in the Rye	Silverline Media	2015-06-07	book
8	36	The Hobbit	Riverbend	2020-05-21	book
9	37	Fahrenheit 451	Crescent Works	1991-11-30	book
10	39	The Lord of the Rings	Northstar Press	2013-04-07	book
11	40	Jane Eyre	Oak & Ivy	1995-10-17	book
12	41	Wuthering Heights	Northstar Press	2016-09-16	book
13	42	Crime and Punishment	Silverline Media	1991-08-31	book
14	45	The Grapes of Wrath	Oak & Ivy	1996-02-04	book
15	46	One Hundred Years of Solitu…	Harbor Press	2018-09-23	book
16	47	The Alchemist	Riverbend	2008-02-16	book
17	48	The Handmaid's Tale	Northstar Press	1992-07-03	book
18	49	The Kite Runner	Crescent Works	1995-07-31	book
19	50	The Da Vinci Code	Blue Horizon	1997-10-24	book
20	52	The Fault in Our Stars	Redwood House	2001-07-22	book
21	54	Echoes of Tomorrow	Harbor Press	2005-02-19	media
22	56	The Last Beacon	Riverbend	1994-02-27	media
23	58	Irons in the Sky	Redwood House	2019-04-23	media
24	59	Lanterns on the Shore	Oak & Ivy	1999-10-22	media
25	65	Harbor of Glass	Starlight Publishing	2017-10-02	media
26	71	Paint the Horizon	Harbor Press	1995-01-15	media
27	74	Remembering Andromeda	Crescent Works	2010-12-30	media
28	75	The Mapmaker's Son	Starlight Publishing	2024-06-11	media
29	76	Axiom Blue	Redwood House	2023-02-28	media
30	77	Songs from the Basement	Maple Leaf Publishing	2016-01-16	media
31	78	Blackbird Station	Blue Horizon	2006-07-25	media
32	82	Northwind Traveler	Silverline Media	1995-11-11	magazine
33	83	Byte & Beam	Crescent Works	2008-10-04	magazine
34	85	Modern Homestead	Blue Horizon	2010-10-11	magazine
35	87	Artisan Quarterly	Northstar Press	2019-10-31	magazine
36	88	Harbor Living	Riverbend	2000-09-30	magazine
37	89	Circuit Journal	Harbor Press	1995-02-25	magazine
38	90	Well & Good	Northstar Press	1993-03-28	magazine
39	91	Frame by Frame	Harbor Press	2015-07-21	magazine
40	92	Garden & Grove	Blue Horizon	2018-06-02	magazine
41	93	City Sound	Oak & Ivy	2008-07-26	magazine
42	94	Field Notes	Silverline Media	2016-05-20	magazine
43	95	Makers Monthly	Harbor Press	1992-02-22	magazine
44	96	Coastal Chronicle	Redwood House	2014-11-28	magazine
45	97	Venture & Valor	Northstar Press	1992-07-31	magazine
46	98	Campus Today	Crescent Works	2000-04-19	magazine
47	99	Science Current	Northstar Press	1997-09-16	magazine
48	100	Infinite Play	Oak & Ivy	1993-03-03	magazine
49	101	Studio & Street	Redwood House	2024-10-16	magazine
50	102	The Weekend Reader	Oak & Ivy	2019-04-11	magazine
51	103	The Silver Lining	Maple Leaf Publishing	2022-07-06	magazine