Praktikum 2 Sistem Basis Data 2024

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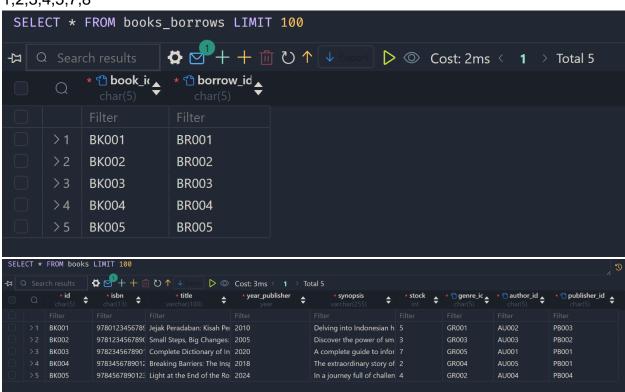Kelas   : SBD C
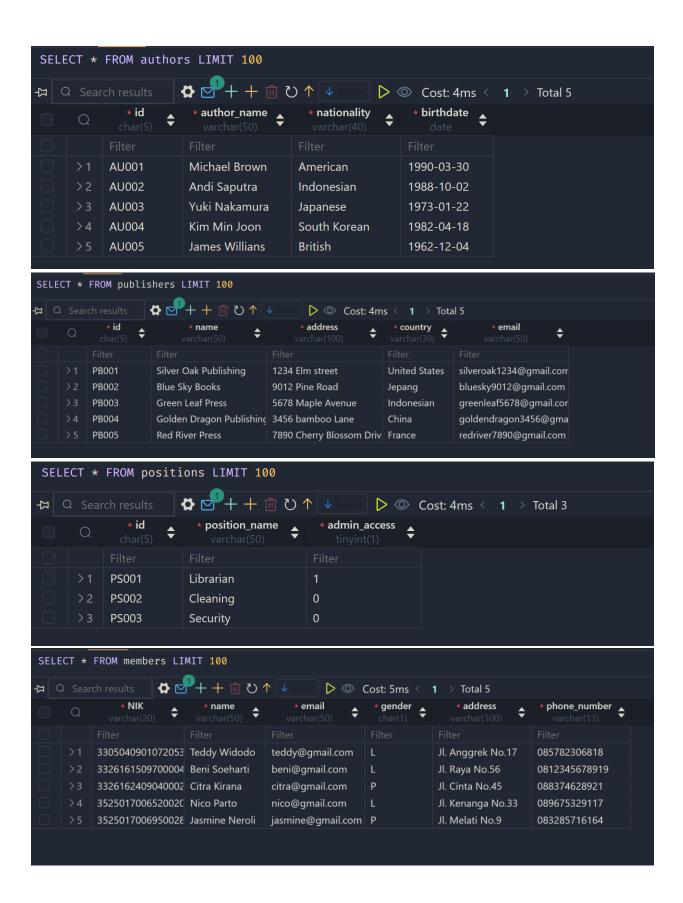
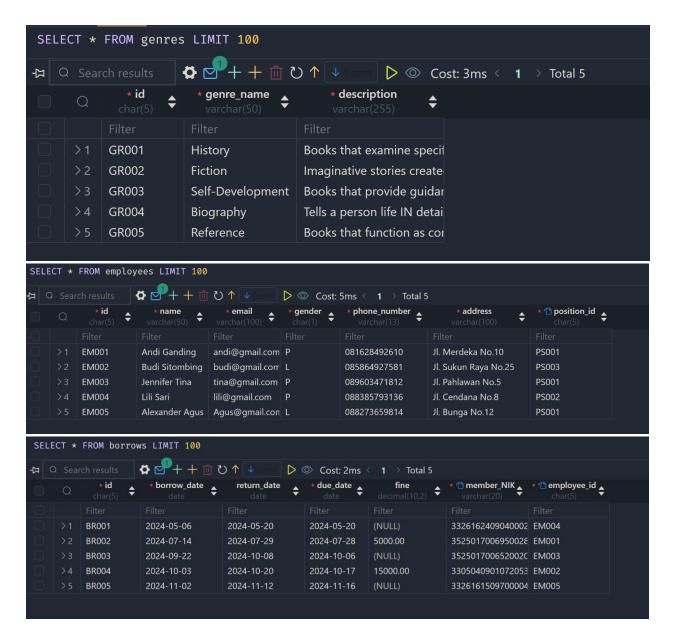RDBMS   : MySQL

Link SQL   :

Kode Asdos   : SBDC03

Sesi   : Praktikum 2, 12 November 2024

1,2,3,4,5,7,8

```
SELECT * FROM books_borrows LIMIT 100
```

Cost: 2ms < 1 > Total 5

		book_id char(5)	borrow_id char(5)
		Filter	Filter
	> 1	BK001	BR001
	> 2	BK002	BR002
	> 3	BK003	BR003
	> 4	BK004	BR004
	> 5	BK005	BR005

```
SELECT * FROM books LIMIT 100
```

Cost: 3ms < 1 > Total 5

		id char(5)	isbn char(13)	title varchar(100)	year_publisher year	synopsis varchar(255)	stock int	genre_ic char(5)	author_id char(5)	publisher_id char(5)
		Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
	> 1	BK001	9780123456789	Jejak Peradaban: Kisah Pe	2010	Delving into Indonesian h	5	GR001	AU002	PB003
	> 2	BK002	9781234567890	Small Steps, Big Changes:	2005	Discover the power of sm	3	GR003	AU003	PB002
	> 3	BK003	9782345678901	Complete Dictionary of In	2020	A complete guide to infor	7	GR005	AU001	PB001
	> 4	BK004	9783456789012	Breaking Barriers: The Insp	2018	The extraordinary story of	2	GR004	AU005	PB001
	> 5	BK005	9784567890123	Light at the End of the Ro	2024	In a journey full of challen	4	GR002	AU004	PB004

```sql
SELECT * FROM authors LIMIT 100
```

Search results | Cost: 4ms < 1 > Total 5

		* id char(5)	* author_name varchar(50)	* nationality varchar(40)	* birthdate date
		Filter	Filter	Filter	Filter
	> 1	AU001	Michael Brown	American	1990-03-30
	> 2	AU002	Andi Saputra	Indonesian	1988-10-02
	> 3	AU003	Yuki Nakamura	Japanese	1973-01-22
	> 4	AU004	Kim Min Joon	South Korean	1982-04-18
	> 5	AU005	James Willians	British	1962-12-04

```sql
SELECT * FROM publishers LIMIT 100
```

Search results | Cost: 4ms < 1 > Total 5

		* id char(5)	* name varchar(50)	* address varchar(100)	* country varchar(30)	* email varchar(50)
		Filter	Filter	Filter	Filter	Filter
	> 1	PB001	Silver Oak Publishing	1234 Elm street	United States	silveroak1234@gmail.com
	> 2	PB002	Blue Sky Books	9012 Pine Road	Jepang	bluesky9012@gmail.com
	> 3	PB003	Green Leaf Press	5678 Maple Avenue	Indonesian	greenleaf5678@gmail.cor
	> 4	PB004	Golden Dragon Publishing	3456 bamboo Lane	China	goldendragon3456@gma
	> 5	PB005	Red River Press	7890 Cherry Blossom Driv	France	redriver7890@gmail.com

```sql
SELECT * FROM positions LIMIT 100
```

Search results | Cost: 4ms < 1 > Total 3

		* id char(5)	* position_name varchar(50)	* admin_access tinyint(1)
		Filter	Filter	Filter
	> 1	PS001	Librarian	1
	> 2	PS002	Cleaning	0
	> 3	PS003	Security	0

```sql
SELECT * FROM members LIMIT 100
```

Search results | Cost: 5ms < 1 > Total 5

		* NIK varchar(20)	* name varchar(50)	* email varchar(50)	* gender char(1)	* address varchar(100)	* phone_number varchar(13)
		Filter	Filter	Filter	Filter	Filter	Filter
	> 1	3305040901072053	Teddy Widodo	teddy@gmail.com	L	Jl. Anggrek No.17	085782306818
	> 2	3326161509700004	Beni Soeharti	beni@gmail.com	L	Jl. Raya No.56	0812345678919
	> 3	3326162409040002	Citra Kirana	citra@gmail.com	P	Jl. Cinta No.45	088374628921
	> 4	352501700652002C	Nico Parto	nico@gmail.com	L	Jl. Kenanga No.33	089675329117
	> 5	352501700695002E	Jasmine Neroli	jasmine@gmail.com	P	Jl. Melati No.9	083285716164

```
SELECT * FROM genres LIMIT 100
```

Cost: 3ms < 1 > Total 5

		* id char(5)	* genre_name varchar(50)	* description varchar(255)
		Filter	Filter	Filter
	> 1	GR001	History	Books that examine specif
	> 2	GR002	Fiction	Imaginative stories create
	> 3	GR003	Self-Development	Books that provide guidar
	> 4	GR004	Biography	Tells a person life IN detai
	> 5	GR005	Reference	Books that function as cor

```
SELECT * FROM employees LIMIT 100
```

Cost: 5ms < 1 > Total 5

		* id char(5)	* name varchar(50)	* email varchar(100)	* gender char(1)	* phone_number varchar(13)	* address varchar(100)	* position_id char(5)
		Filter	Filter	Filter	Filter	Filter	Filter	Filter
	> 1	EM001	Andi Ganding	andi@gmail.com	P	081628492610	Jl. Merdeka No.10	PS001
	> 2	EM002	Budi Sitombing	budi@gmail.com	L	085864927581	Jl. Sukun Raya No.25	PS003
	> 3	EM003	Jennifer Tina	tina@gmail.com	P	089603471812	Jl. Pahlawan No.5	PS001
	> 4	EM004	Lili Sari	lili@gmail.com	P	088385793136	Jl. Cendana No.8	PS002
	> 5	EM005	Alexander Agus	Agus@gmail.con	L	088273659814	Jl. Bunga No.12	PS001

```
SELECT * FROM borrows LIMIT 100
```

Cost: 2ms < 1 > Total 5

		* id char(5)	* borrow_date date	return_date date	* due_date date	fine decimal(10,2)	* member_NIK varchar(20)	* employee_id char(5)
		Filter	Filter	Filter	Filter	Filter	Filter	Filter
	> 1	BR001	2024-05-06	2024-05-20	2024-05-20	(NULL)	3326162409040002	EM004
	> 2	BR002	2024-07-14	2024-07-29	2024-07-28	5000.00	352501700695002E	EM001
	> 3	BR003	2024-09-22	2024-10-08	2024-10-06	(NULL)	352501700652002C	EM003
	> 4	BR004	2024-10-03	2024-10-20	2024-10-17	15000.00	3305040901072053	EM002
	> 5	BR005	2024-11-02	2024-11-12	2024-11-16	(NULL)	3326161509700004	EM005

Log SQL:
DROP DATABASE IF EXISTS wendy_librarian;

CREATE DATABASE IF NOT EXISTS wendy_librarian;

USE wendy_librarian;

-- 1
CREATE TABLE members (
    id CHAR(5) NOT NULL,
    name VARCHAR(50) NOT NULL,

```sql
    email VARCHAR(50) NOT NULL,
    gender CHAR(1) NOT NULL,
    address VARCHAR(100) NOT NULL,
    PRIMARY KEY (id)
);

CREATE TABLE genres (
    id char(5) NOT NULL,
    genre_name VARCHAR(50) NOT NULL,
    description VARCHAR(255) NOT NULL,
    PRIMARY KEY (id)
);

CREATE TABLE positions (
    id char(5) NOT NULL,
    position_name VARCHAR(50) NOT NULL,
    admin_access BOOLEAN NOT NULL,
    PRIMARY KEY (id)
);

CREATE TABLE books (
    id char(5) NOT NULL,
    isbn char(13) NOT NULL,
    title VARCHAR(100) NOT NULL,
    author_name VARCHAR(50) NOT NULL,
    year_publisher YEAR NOT NULL,
    synopsis VARCHAR(255) NOT NULL,
    stock int NOT NULL,
    genre_id char(5) NOT NULL,
    PRIMARY KEY (id),
    FOREIGN KEY (genre_id) REFERENCES genres (id) ON DELETE CASCADE ON
UPDATE CASCADE
);

CREATE TABLE employees (
    id char(5) NOT NULL,
    name VARCHAR(50) NOT NULL,
    email VARCHAR(100) NOT NULL,
    gender CHAR(1) NOT NULL,
    address VARCHAR(100) NOT NULL,
```

```sql
    position_id char(5) NOT NULL,
    PRIMARY KEY (id),
    FOREIGN KEY (position_id) REFERENCES positions (id) ON DELETE CASCADE
ON UPDATE CASCADE
);

CREATE TABLE phone_numbers (
    phone_number VARCHAR(13) NOT NULL,
    member_id char(5) NOT NULL,
    employee_id char(5) NOT NULL,
    PRIMARY KEY (phone_number),
    FOREIGN KEY (member_id) REFERENCES members (id) ON DELETE CASCADE
ON UPDATE CASCADE,
    FOREIGN KEY (employee_id) REFERENCES employees (id) ON DELETE
CASCADE ON UPDATE CASCADE
);

CREATE TABLE borrows (
    id char(5) NOT NULL,
    borrow_date DATE NOT NULL,
    return_date DATE,
    due_date DATE NOT NULL,
    fine DECIMAL(10, 2),
    member_id char(5) NOT NULL,
    employee_id char(5) NOT NULL,
    PRIMARY KEY (id),
    FOREIGN KEY (member_id) REFERENCES members (id) ON DELETE CASCADE
ON UPDATE CASCADE,
    FOREIGN KEY (employee_id) REFERENCES employees (id) ON DELETE
CASCADE ON UPDATE CASCADE
);

CREATE TABLE books_borrows (
    book_id char(5) NOT NULL,
    borrow_id char(5) NOT NULL,
    PRIMARY KEY (book_id, borrow_id),
    FOREIGN KEY (book_id) REFERENCES books (id) ON DELETE CASCADE ON
UPDATE CASCADE,
    FOREIGN KEY (borrow_id) REFERENCES borrows (id) ON DELETE CASCADE ON
UPDATE CASCADE
```

```sql
);

-- 2
CREATE TABLE authors (
    id char(5) NOT NULL,
    author_name VARCHAR(50) NOT NULL,
    nationality VARCHAR(40) NOT NULL,
    birthdate DATE NOT NULL,
    PRIMARY KEY (id)
);

CREATE TABLE publishers (
    id char(5) NOT NULL,
    name VARCHAR(50) NOT NULL,
    address VARCHAR(100) NOT NULL,
    country VARCHAR(30) NOT NULL,
    email VARCHAR(50) NOT NULL,
    PRIMARY KEY (id)
);

DROP TABLE books_borrows;

DROP TABLE books;

CREATE TABLE books (
    id char(5) NOT NULL,
    isbn char(13) NOT NULL,
    title VARCHAR(100) NOT NULL,
    year_publisher YEAR NOT NULL,
    synopsis VARCHAR(255) NOT NULL,
    stock int NOT NULL,
    genre_id char(5) NOT NULL,
    author_id CHAR(5) NOT NULL,
    publisher_id CHAR(5) NOT NULL,
    PRIMARY KEY (id),
    FOREIGN KEY (genre_id) REFERENCES genres (id) ON DELETE CASCADE ON
UPDATE CASCADE,
    FOREIGN KEY (author_id) REFERENCES authors (id) ON DELETE CASCADE ON
UPDATE CASCADE,
```

```sql
    FOREIGN KEY (publisher_id) REFERENCES publishers (id) ON DELETE
CASCADE ON UPDATE CASCADE
);

CREATE TABLE books_borrows (
    book_id char(5) NOT NULL,
    borrow_id char(5) NOT NULL,
    PRIMARY KEY (book_id, borrow_id),
    FOREIGN KEY (book_id) REFERENCES books (id) ON DELETE CASCADE ON
UPDATE CASCADE,
    FOREIGN KEY (borrow_id) REFERENCES borrows (id) ON DELETE CASCADE ON
UPDATE CASCADE
);

-- 3
DROP TABLE phone_numbers;

DROP TABLE books_borrows;

DROP TABLE borrows;

DROP TABLE members;

CREATE TABLE members (
    NIK VARCHAR(20) NOT NULL,
    name VARCHAR(50) NOT NULL,
    email VARCHAR(50) NOT NULL,
    gender CHAR(1) NOT NULL,
    address VARCHAR(100) NOT NULL,
    PRIMARY KEY (NIK)
);

CREATE TABLE phone_numbers (
    phone_number VARCHAR(13) NOT NULL,
    member_NIK varchar(20) NOT NULL,
    employee_id char(5) NOT NULL,
    PRIMARY KEY (phone_number),
    FOREIGN KEY (member_NIK) REFERENCES members (NIK) ON DELETE
CASCADE ON UPDATE CASCADE,
```

```sql
    FOREIGN KEY (employee_id) REFERENCES employees (id) ON DELETE
CASCADE ON UPDATE CASCADE
);

CREATE TABLE borrows (
    id char(5) NOT NULL,
    borrow_date DATE NOT NULL,
    return_date DATE,
    due_date DATE NOT NULL,
    fine DECIMAL(10, 2),
    member_NIK varchar(20) NOT NULL,
    employee_id char(5) NOT NULL,
    PRIMARY KEY (id),
    FOREIGN KEY (member_NIK) REFERENCES members (NIK) ON DELETE
CASCADE ON UPDATE CASCADE,
    FOREIGN KEY (employee_id) REFERENCES employees (id) ON DELETE
CASCADE ON UPDATE CASCADE
);

CREATE TABLE books_borrows (
    book_id char(5) NOT NULL,
    borrow_id char(5) NOT NULL,
    PRIMARY KEY (book_id, borrow_id),
    FOREIGN KEY (book_id) REFERENCES books (id) ON DELETE CASCADE ON
UPDATE CASCADE,
    FOREIGN KEY (borrow_id) REFERENCES borrows (id) ON DELETE CASCADE ON
UPDATE CASCADE
);

-- 4
DROP TABLE phone_numbers;

ALTER TABLE employees ADD phone_number VARCHAR(13) NOT NULL;

ALTER TABLE members ADD phone_number VARCHAR(13) NOT NULL;

ALTER TABLE employees
MODIFY phone_number VARCHAR(13) NOT NULL after gender;

-- 5
```

```sql
INSERT INTO
    genres
VALUES (
        'GR001',
        'History',
        'Books that examine specific events or eras, providing insight into the past and its impact on the present. Usually accompanied by in-depth historical data, analysis and narrative.'
    ),
    (
        'GR002',
        'Fiction',
        'Imaginative stories created by writers, not based on real facts. This genre includes subgenres such as romance, fantasy, and adventure, with a focus on characters and storyline.'
    ),
    (
        'GR003',
        'Self-Development',
        'Books that provide guidance to improve the quality of life or skills of the reader. Presents practical advice on topics such as motivation, time management, and personal problem solving.'
    ),
    (
        'GR004',
        'Biography',
        'Tells a person life IN detail FROM birth TO the END OF his life OR NOW.Compiled based ON facts, this story describes the characters experiences, struggles and achievements.'
    ),
    (
        'GR005',
        'Reference',
        'Books that function as complete reference sources, such as dictionaries, encyclopedias, or handbooks. Contains data, definitions or concepts that can be accessed as needed, without having to be read sequentially.'
    );

INSERT INTO
    authors
```

```sql
VALUES (
    'AU001',
    'Michael Brown',
    'American',
    '1990-03-30'
  ),
  (
    'AU002',
    'Andi Saputra',
    'Indonesian',
    '1988-10-02'
  ),
  (
    'AU003',
    'Yuki Nakamura',
    'Japanese',
    '1973-01-22'
  ),
  (
    'AU004',
    'Kim Min Joon',
    'South Korean',
    '1982-04-18'
  ),
  (
    'AU005',
    'James Willians',
    'British',
    '1962-12-04'
  );

INSERT INTO
  publishers
VALUES (
    'PB001',
    'Silver Oak Publishing',
    '1234 Elm street',
    'United States',
    'silveroak1234@gmail.com'
  ),
```

```sql
    (
        'PB002',
        'Blue Sky Books',
        '9012 Pine Road',
        'Jepang',
        'bluesky9012@gmail.com'
    ),
    (
        'PB003',
        'Green Leaf Press',
        '5678 Maple Avenue',
        'Indonesian',
        'greenleaf5678@gmail.com'
    ),
    (
        'PB004',
        'Golden Dragon Publishing',
        '3456 bamboo Lane',
        'China',
        'goldendragon3456@gmail.com'
    ),
    (
        'PB005',
        'Red River Press',
        '7890 Cherry Blossom Drive',
        'France',
        'redriver7890@gmail.com'
    );

INSERT INTO
    Books
VALUES (
        'BK001',
        '9780123456789',
        'Jejak Peradaban: Kisah Perjalanan Sejarah Indonesia',
        '2010',
        'Delving into Indonesian history, this book presents important events and influential figures who shaped the nations civilization, bringing readers to understand the roots of Indonesian culture and identity.',
        5,
```

```
    'GR001',
    'AU002',
    'PB003'
),
(
    'BK002',
    '9781234567890',
    'Small Steps, Big Changes: Building Positive Habits',
    '2005',
    'Discover the power of small habits that have a big impact. This book provides
practical strategies for building positive habits that can change lives and improve overall
well-being.',
    3,
    'GR003',
    'AU003',
    'PB002'
),
(
    'BK003',
    '9782345678901',
    'Complete Dictionary of Information Technology Terms',
    '2020',
    'A complete guide to information technology terms, this book explains basic
concepts to complex technical terms, making it a useful reference resource for students
and professionals.',
    7,
    'GR005',
    'AU001',
    'PB001'
),
(
    'BK004',
    '9783456789012',
    'Breaking Barriers: The Inspiring Story of Nelson Mandela',
    '2018',
    'The extraordinary story of Nelson Mandela, a freedom fighter who overcame
obstacles to fight for equality and justice. An inspiring journey of courage, sacrifice, and
hope.',
    2,
    'GR004',
```

```sql
        'AU005',
        'PB001'
    ),
    (
        'BK005',
        '9784567890123',
        'Light at the End of the Road: A Story of Hope',
        '2024',
        'In a journey full of challenges, a character finds the strength of hope and
friendship. This novel invites readers to reflect on the meaning of life and the
importance of believing in a better future.',
        4,
        'GR002',
        'AU004',
        'PB004'
    );

INSERT INTO
    positions
VALUES ('PS001', 'Librarian', TRUE),
    ('PS002', 'Cleaning', FALSE),
    ('PS003', 'Security', FALSE);

INSERT INTO
    employees
VALUES (
        'EM001',
        'Andi Ganding',
        'andi@gmail.com',
        'P',
        '081628492610',
        'Jl. Merdeka No.10',
        'PS001'
    ),
    (
        'EM002',
        'Budi Sitombing',
        'budi@gmail.com',
        'L',
        '085864927581',
```

```sql
        'Jl. Sukun Raya No.25',
        'PS003'
    ),
    (
        'EM003',
        'Jennifer Tina',
        'tina@gmail.com',
        'P',
        '089603471812',
        'Jl. Pahlawan No.5',
        'PS001'
    ),
    (
        'EM004',
        'Lili Sari',
        'lili@gmail.com',
        'P',
        '088385793136',
        'Jl. Cendana No.8',
        'PS002'
    ),
    (
        'EM005',
        'Alexander Agus',
        'Agus@gmail.com',
        'L',
        '088273659814',
        'Jl. Bunga No.12',
        'PS001'
    );

INSERT INTO
    members
VALUES (
        '3326162409040002',
        'Citra Kirana',
        'citra@gmail.com',
        'P',
        'Jl. Cinta No.45',
        '088374628921'
```

```sql
    ),
    (
        '3525017006950028',
        'Jasmine Neroli',
        'jasmine@gmail.com',
        'P',
        'Jl. Melati No.9',
        '083285716164'
    ),
    (
        '3525017006520020',
        'Nico Parto',
        'nico@gmail.com',
        'L',
        'Jl. Kenanga No.33',
        '089675329117'
    ),
    (
        '3305040901072053',
        'Teddy Widodo',
        'teddy@gmail.com',
        'L',
        'Jl. Anggrek No.17',
        '085782306818'
    ),
    (
        '3326161509700004',
        'Beni Soeharti',
        'beni@gmail.com',
        'L',
        'Jl. Raya No.56',
        '0812345678919'
    );

INSERT INTO
    borrows
VALUES (
        'BR001',
        '2024-05-06',
        '2024-05-20',
```

```
        '2024-05-20',
        NULL,
        '3326162409040002',
        'EM004'
    ),
    (
        'BR002',
        '2024-07-14',
        '2024-07-29',
        '2024-07-28',
        5000.00,
        '3525017006950028',
        'EM001'
    ),
    (
        'BR003',
        '2024-09-22',
        '2024-10-08',
        '2024-10-6',
        10000.00,
        '3525017006520020',
        'EM003'
    ),
    (
        'BR004',
        '2024-10-03',
        '2024-10-20',
        '2024-10-17',
        15000.00,
        '3305040901072053',
        'EM002'
    ),
    (
        'BR005',
        '2024-11-02',
        NULL,
        '2024-11-16',
        NULL,
        '3326161509700004',
        'EM005'
```

```sql
    );

INSERT INTO
    books_borrows
VALUES ('BK001', 'BR001'),
    ('BK002', 'BR002'),
    ('BK003', 'BR003'),
    ('BK004', 'BR004'),
    ('BK005', 'BR005');

-- 7
UPDATE borrows
SET
    return_date = CURRENT_DATE
WHERE
    member_NIK = '3326161509700004';

-- 8
UPDATE borrows
SET
    fine = NULL
WHERE
    member_NIK = 3525017006520020
    AND 3305040901072053;
```