

Assignment 4 Part 1: Oracle SQL Database
CPS510-Section 8
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Library Database System

Charts:

Books:

Book_id	Title	Author_id	Publication Year	ISBN	Genre_id	Available Copie
100	"1984"	1000	1949	9780451524935	2	100
101	"The Great Gatsby"	1001	1925	9780743273565	1	97
102	"To Kill a Mockingbird"	1002	1960	9780446310789	6	125
103	"Moby-Dick"	1003	1851	9781509826643	4	87

```
--Create books table
CREATE TABLE book(
  book_id INTEGER PRIMARY KEY,
  title VARCHAR(100),
  author_id INTEGER,
  publication_year INTEGER,
  ISBN NUMBER(20),
  genre_id INTEGER,
  available_copie INTEGER,
  FOREIGN KEY (author_id) REFERENCES authors(author_id),
  FOREIGN KEY (genre_id) REFERENCES genres(genre_id),
);
```

Authors:

author_id	first_name	last_name	birth_date	biography
1000	George	Orwell	1903-06-25	English novelist and essayist, famous for "1984"
1001	F. Scott	Fitzgerald	1924-04-25	English author known for "The Great Gatsby"
1002	Harper	Lee	1926-04-28	American novelist known for "To Kill a Mockingbird"
1003	Herman	Melville	1819-08-01	American author known for "Moby-Dick"
1004	Rick	Riordan	1964-06-05	American author known for the Percy Jackson series

```
CREATE TABLE authors (
  author_id INTEGER PRIMARY KEY,
  first_name VARCHAR(100),
  last_name VARCHAR(100),
  birth_date DATE,
  biography VARCHAR(100)
);
```

Staff Members:

Staff_id	first_name	last_name	email	phone_number	Start_date
1	Akshar	Patel	akshar1.patel@torontomu.ca	(123) 456-7890	2022-09-10
2	Amsan	Naheswaran	amsan.naheswaran@torontomu.ca	(456) 123-0987	2015-06-17
3	Amaan	Asim	amaan.asim@torontomu.ca	(678) 901-2345	2020-12-01

```
CREATE TABLE staff (
  staff_id INTEGER PRIMARY KEY,
  first_name VARCHAR(100),
  last_name VARCHAR(100),
  phone_number VARCHAR(20),
  email VARCHAR(100)
);
```

Genres:

Genre_id	Genre Name
1	"Fiction"
2	"Science Fiction"
3	"Mystery"
4	"Adventure"
5	"Non-Fiction"
6	"Thriller"
7	"Romance"

```
CREATE TABLE genres (  
  genre_id INT PRIMARY KEY,  
  genre_name VARCHAR(255)  
);
```

Members:

Member_id	Name	Email	Phone Number	Address	Start Date	Number of Books Signed Out
001	Jeffery David	jeff.david@gmail.com	555-666-777	12 Appleberry Road	2022-09-10	1
002	Amanda Song	amanda@gmail.com	555-515-2356	1234 Coner Street	2015-06-17	2
003	Lee Soi	lee.soi@gmail.com	555-143-5920	99 Toddville Crossing	2020-12-01	3

```
CREATE TABLE members (  
    member_id INT PRIMARY KEY,  
    first_name VARCHAR(255),  
    last_name VARCHAR(255),  
    email VARCHAR(100),  
    phone_number VARCHAR(20),  
    address VARCHAR(255),  
    start_date DATE,  
    books_signed_out INT  
);
```

Checked Out Books:

Checkout_id	book_id	member_id	Date checked out	Due Date
2000	100	001	2023-09-13	2023-09-27
2001	101	002	2023-08-01	2022-08-15
2003	102	003	2022-12-27	2023-01-13
2004	103	004	2019-05-05	2019-05-20

```
CREATE TABLE checked_out_books(  
    checkedout_id INTEGER PRIMARY KEY,  
    book_id INTEGER,  
    member_id INTEGER,  
    date_checked_out DATE,  
    due_date DATE,  
    FOREIGN KEY (book_id) REFERENCES book(book_id),  
    FOREIGN KEY (member_id) REFERENCES members(member_id)  
);
```

Simple Queries:

```
SELECT author_id, publication_year FROM book;

SELECT book_id, available_copie FROM book;

SELECT book_id, genre_id FROM book ORDER BY book_id DESC;


SELECT first_name, last_name, biography FROM authors;

SELECT author_id, birth_date FROM authors;

SELECT first_name FROM authors;


SELECT first_name, email FROM staff;

SELECT staff_id, first_name, phone_number FROM staff;

SELECT first_name, last_name, start_date FROM staff;


SELECT genre_id FROM genres;

SELECT genre_id, genre_name FROM genres;

SELECT DISTINCT first_name, last_name FROM authors
WHERE author_id IN (SELECT author_id FROM book WHERE genre_id = 4);
```

```
SELECT member_id, first_name, last_name, books_signed_out FROM members

SELECT first_name, last_name, email FROM members

SELECT first_name, phone_number, address FROM members

SELECT books_signed_out FROM members ORDER BY books_signed_out DESC


SELECT book_id, member_id, date_checked_out FROM checked_out_books

SELECT checkedout_id, member_id, due_date FROM checked_out_books

SELECT book_id, date_checked_out, due_date FROM checked_out_books

SELECT due_date FROM checked_out_books ORDER BY date ASC
```

Some Sample Outputs:

Query:

```
SELECT author_id, publication_year FROM book;
```

	AUTHOR_ID	PUBLICATION_YEAR
1	1000	1949
2	1001	1925
3	1002	1960
4	1003	1851
5	1004	1951

Query:

```
SELECT DISTINCT first_name, last_name FROM authors  
WHERE author_id IN (SELECT author_id FROM book WHERE genre_id = 4);
```

	FIRST_NAME	LAST_NAME
1	Herman	Melville

Query:

```
SELECT book_id, genre_id FROM book ORDER BY book_id DESC;
```

	BOOK_ID	GENRE_ID
1	104	1
2	103	4
3	102	6
4	101	1
5	100	2