

National University of Computer and Emerging Sciences



In Lab Exercise

Database Systems

Fall 2024

Department of Computer Science
FAST-NU, Lahore, Pakistan

Database

Borrow:

	id	book_id	member_id	borrow_date	return_date
1	1	101	101	2022-01-01	2022-01-15
2	2	102	101	2022-01-01	2022-01-15
3	3	103	102	2022-01-01	2022-01-15
4	4	104	102	2022-01-01	2022-01-15
5	5	105	103	2022-01-01	2022-01-15
6	6	106	103	2022-01-01	2022-01-15
7	7	107	104	2022-01-01	2022-01-15
8	8	108	104	2022-01-01	2022-01-15
9	9	107	105	2022-01-01	2022-01-15
10	10	108	105	2022-01-01	2022-01-15

Book:

	book_id	title	author	publisher	price	category	publication_date
1	101	The Great Gatsby	F. Scott Fitzgerald	Scribner	12	Classic	1925-04-10
2	102	To Kill a Mockingbird	Harper Lee	J. B. Lippincott & Co.	9	Classic	1960-07-11
3	103	1984	George Orwell	Secker & Warburg	10	Science Fiction	1949-06-08
4	104	The Hitchhiker's Guide to the Galaxy	Douglas Adams	Pan Books	8	Science Fiction	1979-10-12
5	105	The Da Vinci Code	Dan Brown	Doubleday	14	Mystery	2003-03-18
6	106	Gone Girl	Gillian Flynn	Crown	13	Mystery	2012-06-05
7	107	The Hunger Games	Suzanne Collins	Scholastic Press	11	Young Adult	2008-09-14
8	108	Harry Potter and the Philosopher's Stone	J.K. Rowling	Bloomsbury	9	Young Adult	1997-06-26

Members:

	member_id	first_name	last_name	email	phone
1	101	John	Doe	johndoe@gmail.com	555-1234
2	102	Jane	Doe	janedoe@yahoo.com	555-5678
3	103	Bob	Smith	bobsmith@hotmail.com	555-9012
4	104	Alice	Johnson	alicejohnson@gmail.com	555-3456
5	105	Tom	Wilson	tomwilson@yahoo.com	555-7890

Exercise

DML Questions:

1. Add a new member Sarah Taylor with email sarahtaylor@gmail.com and phone number 555-4321.
2. Increase the price of all books in the Science Fiction category by 10%.
3. Remove the record of the member with email janedoe@yahoo.com from the Member table.
4. Retrieve all books borrowed by Alice Johnson, showing the book title, author, and borrowed date.(Use Join)

Views Questions:

5. Create a view to display the complete borrow history of each member, including the member's name, book title, borrow date, and return date.
6. Create a view to display the most expensive books by category, including the book title, category, and price.
7. Create a view to list all members who borrowed books in the Mystery category, including the member's name, phone number, and book title.

Trigger Questions:

8. Write a trigger to prevent a member from borrowing the same book if they have not yet returned it.
9. Create a trigger to log information about deleted members (including their ID and name) into a DeletedMembersLog table.(Create DeletedMembersLog table)
10. Develop a trigger to log a message if a book's price is updated, storing the old price, new price, and the book's title in a log table.(hint: create a table to store the info)
11. Write a trigger to automatically delete all borrow records of a member when the member is removed from the Member table .