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BSCpE- 3A

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Database Management System

Laboratory 2

MySQL Workbench

Library Management x

File Edit View Query Database Server Tools Scripting Help

Navigator: books x

Limit to 1000 rows

SCHEMAS

Filter objects

librarymanagement

- Tables
 - books
 - members
 - transactions
- Views
- Stored Procedures
- Functions

sys

- Tables
- Views
- Stored Procedures
- Functions

Administration Schemas

Information

Schema: librarymanagement

```
17
18 CREATE TABLE Transactions (
19     TransactionID INT PRIMARY KEY AUTO_INCREMENT,
20     MemberID INT,
21     BookID INT,
22     IssueDate DATE,
23     ReturnDate DATE,
24     FOREIGN KEY (MemberID) REFERENCES Members(MemberID),
25     FOREIGN KEY (BookID) REFERENCES Books(BookID)
26 );
27 SHOW TABLES;
28
```

Result Grid

Filter Rows:

Export: Wrap Cell Content:

Tables_in_librarymanagement

- books
- members
- transactions

Result Grid

Form Editor

Result 2 x

Read Only

Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	19:54:18	SHOW TABLES	3 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

27°C Haze

Search

ENG US

7:56 pm 04/02/2025

Result:

Three tables (Books, Members, and Transactions) are created.

What is the importance of primary keys in a relational database?

Answer:

A primary key in a table that uniquely identifies each row and column or set of columns in the table. The primary key is an attribute or a set of attributes that help to uniquely identify the tuples(records) in the relational table. A primary key index is automatically created for each table with a primary key column. A primary key is a type of key that contains a column or set of columns in a table that uniquely identifies each row in the table. The primary key is an attribute or a set of attributes that help to uniquely identify the tuples(records) in the relational table. Uniqueness: The primary key ensures that each record in the table is uniquely identifiable. This prevents duplication and helps maintain data integrity. Efficient Data Retrieval: DBMS typically creates primary index when a primary key is made which makes records to be stored according to values of primary key. Hence accessing data using a primary key becomes fast.

How do foreign keys maintain referential integrity?

Answer:

Keys ensure referential integrity by linking tables through primary and foreign keys, preventing orphan records, and maintaining consistent data relationships.

Keys ensure that the data held in two tables is related through primary and foreign keys, preventing orphan records and maintaining the consistency of data relationships.

Referential integrity assures that each foreign key in a child table either accurately points to a corresponding primary key in a parent table or is null if the relation is optional. Keys play a significant role in defining referential integrity in relational databases by establishing explicit relationships between tables. This concept includes relations among several tables to keep them consistent, using primary and foreign keys.