

RDBMS FUNDAMENTALS

ASSIGNMENT 2

Design a database schema for a library system, including tables, fields, and constraints like NOT NULL, UNIQUE, and CHECK. Include primary and foreign keys to establish relationships between tables.

```
CREATE TABLE Member (  
    MemberID NUMBER PRIMARY KEY,  
    Name VARCHAR(20) NOT NULL,  
    Address VARCHAR(50),  
    PhoneNumber VARCHAR(10) UNIQUE,  
    Email VARCHAR(20) UNIQUE NOT NULL  
);
```

```
CREATE TABLE Category (  
    CategoryID NUMBER PRIMARY KEY,  
    CategoryName VARCHAR(50) NOT NULL UNIQUE  
);
```

```
CREATE TABLE Book (  
    BookID INT PRIMARY KEY,  
    Title VARCHAR(20) NOT NULL,  
    Author VARCHAR(20) NOT NULL,  
    Publisher VARCHAR(20),  
    YearOfPublication INT CHECK (YearOfPublication > 0),  
    CategoryID REFERENCES Category(CategoryId)  
);
```

```
CREATE TABLE Employee (  

```

EmployeeID INT PRIMARY KEY,
Name VARCHAR(20) NOT NULL,
Position VARCHAR(50),
Email VARCHAR(20) UNIQUE NOT NULL

);

Explanation of Constraint :

- **NOT NULL** : Ensures that a field must have a value.
- **UNIQUE** : Ensures that all values in a column are different.
- **CHECK** : Ensures that all values in a column satisfy a specific condition.
- **PRIMARY KEY** : Uniquely identifies each record in a table.
- **FOREIGN KEY** : Establishes a link between records in two tables.

The screenshot displays the Oracle Database Express Edition web interface. The browser address bar shows the URL: `cloud2.rpsconsulting.in/console/#/client/MjU5NDEAYwBteXNxbA==`. The interface includes a sidebar with application icons and a main content area with a 'SQL Commands' tab. The SQL editor contains the following commands:

```
SELECT * FROM TAB;  
create table member( memberid number primary key, name varchar(20) not null, address varchar(100), mobile varchar(10) unique, email varchar(20) unique not null);  
desc member;  
insert into member values(1,'Deepika Naik', 'Honnavar, Karnataka', 9876543210,'deepika@vipro.com');  
insert into member values(2,'Priyanka Naik', 'Honnavar, Karnataka', 9876543211,'priyanka@vipro.com');  
insert into member values(3,'Aishwarya S S', 'Chikkabagaluru, Karnataka', 9876543111,'aishwarya@vipro.com');  
insert into member values(4,'Punya', 'Kodagu, Karnataka', 9876543200,'punya@vipro.com');  
insert into member values(5,'Niveditha', 'Jog Falls, Karnataka', 9876543000,'niveditha@vipro.com');  
select * from member;  
create table category1(categoryid number primary key, name varchar(30) not null);  
desc category1;
```

The 'Results' tab shows the output of the `select * from member;` query:

EMPID	NAME	POSITION	EMAIL
1	Kiran	Librarian	kiran@abc.com
2	Rahul	Librarian	rahul@abc.com

Below the table, it states: "2 rows returned in 0.00 seconds". The bottom of the interface shows the Windows taskbar with the date and time: 6:38 PM, 5/20/2024.

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cloud2.rpsconsulting.in/console/#/client/MjU5NDkYwBteXNxbA==

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ORACLE Database Express Edition

User: SYSTEM

Home > SQL > SQL Commands

Autocommit Display 10 Save Run

```
select * from category1;

create table book( bookid number primary key, title varchar(50) not null, author varchar(20) not null, publisher varchar(20) not null, yearofpublication number CHECK
(YeareofPublication > 0), categoryid references category1(categoryid));

insert into book values(1, 'Educated', 'Tara Westover', 'Random House', 2018, 1);
insert into book values(2, 'Beloved', 'Toni Morrison', 'vintage', 1987, 2);
insert into book values(3, 'The Road', 'Gore Vidal', 'vintage', 2006, 1);

select * from book;

create table employee(empid number primary key, name varchar(20) not null, position varchar(20), email varchar(20) unique not null);
insert into employee values(1, 'Kiran', 'Librarian', 'kiran@abc.com');
insert into employee values(2, 'Rahul', 'Librarian', 'rahul@abc.com');

select * from employee;
```

Results Explain Describe Saved SQL History

EMPID	NAME	POSITION	EMAIL
1	Kiran	Librarian	kiran@abc.com
2	Rahul	Librarian	rahul@abc.com

2 rows returned in 0.00 seconds CSV Export

Application Express 2.1.0.00.39
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Language: en-us

Type here to search

26°C Partly sunny

ENG IN 6:38 PM 5/20/2024