Day 9 – Assignment 1

➢ 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.

✓ <u>Designing a database schema for a **Library System** involves creating several tables to manage books, members, loans, and other related entities.</u>

1. create table **members** (

   member_id number(10) primary key,

   name varchar2(50) not null,

   email varchar2(100) not null unique,

   phone_number varchar2(15) not null,

   address varchar2(255) not null,

   membership_date date not null

);

2. create table **books** (

   book_id number(10) primary key,

   title varchar2(255) not null,

   author varchar2(255) not null,

   publisher varchar2(255) not null,

   isbn varchar2(13) not null unique,

   copies_available number(10) not null check (copies_available >= 0)

);

3. create table **loans** (

   loan_id number(10) primary key,

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    member_id number(10) not null,

    book_id number(10) not null,

    loan_date date not null,

    due_date date not null,

    return_date date,

    foreign key (member_id) references members(member_id),

    foreign key (book_id) references books(book_id)

);
```

4. create table **categories** (

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    category_id number(10) primary key,

    category_name varchar2(100) not null unique

);
```

5. create table **book_categories** (

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    book_id number(10) not null,

    category_id number(10) not null,

    primary key (book_id, category_id),

    foreign key (book_id) references books(book_id),

    foreign key (category_id) references categories(category_id)

);
```