# Library Management Data Analysis – Problem Statement

## Data Sources

- Books – Contains book details such as title, author, category, price, and status.
- Members – Stores information about library members.
- Employees – Includes details of staff handling transactions.
- Branch – Contains branch locations and related details.
- Issued_Status – Records book issue transactions.
- Return_Status – Tracks book returns and related dates.

## Key Analysis Areas

1. Data Exploration – Basic understanding of the dataset including total members, books, employees, and transactions.
2. Revenue Insights – Calculation of total revenue, top revenue categories, and monthly income.
3. Category Insights – Identifying the most issued and returned book categories.
4. Member Insights – Detecting the most active members and borrowing behaviors.
5. Employee & Branch Insights – Evaluating staff and branch performance metrics.
6. Return Insights – Measuring book return delays and overall return rates.
7. Advanced Analysis – Determining profitability by category, publisher performance, and availability rates.

## Business Questions Answered

- What are the top categories generating the highest revenue?
- Which members are most active in borrowing books?
- Which branches and employees are performing best?
- What is the return rate and average borrowing duration?
- What percentage of books are currently available?
- Which publishers contribute the most to overall revenue?