**Project Overview: Loan Database Management**

In this project, I designed and implemented a comprehensive loan database system using SQL Server. The project involved creating a structured database, importing data from multiple sources, establishing relationships between different entities, and running various queries to extract meaningful insights. Additionally, I developed dashboards in Excel to visualize key metrics and trends.

**Task 1: Database Creation and Management**

1. **Database Creation**: I initiated the project by creating a new SQL Server database named **Loans**. This database serves as the foundation for managing all loan-related data.
2. **Primary and Foreign Keys**:
   * **Primary Keys**: I established primary keys for the banker data, customer data, and home\_loan\_data tables to ensure data integrity and uniqueness.
   * **Foreign Keys**: I set up foreign key constraints in the Loan\_Records\_Data table to link it with the Home\_Loan\_Data, customer data, and banker data tables, ensuring referential integrity across related records.
3. **Data Import and Table Creation**:
   * Imported data from four CSV files to create corresponding tables (Banker Data, Customer Data, Home\_Loan\_Data, and Loan\_Records\_Data).
   * Verified data import by running SELECT queries to preview records from each table.
4. **Database and Table Queries**:
   * Ran queries to list all available databases and tables within the Loans database.
   * Executed queries to display the top 5 records from each table, ensuring data consistency and completeness.

**Task 2: Advanced Data Queries**

I performed several complex queries to analyse the loan data:

1. **Customer Data Filtering**: Retrieved customer details where email addresses contained the term 'amazon'.
2. **Property Value Analysis**: Identified the maximum property values for each property type and sorted them in descending order.
3. **Loan Issuance Count**: Calculated the number of home loans issued in San Francisco.
4. **City-based Property Value Analysis**: Found cities where the average property value exceeded $3 million.
5. **Customer Age Analysis**: Determined the average age of female customers who took non-joint loans for town homes.
6. **City-wise Loan Percent**: Identified the top 3 cities with the lowest average loan percent.
7. **Loan Term Analysis**: Calculated the average loan term for specific property types and cities.
8. **Banker Performance**: Identified the top 2 bankers involved in the highest number of distinct loan records.
9. **City Loan Issuance**: Counted the total number of cities where home loans were issued.
10. **Banker Age Analysis**: Calculated the average age of male bankers based on their joining date.

**Task 3: Stored Procedures and Views**

1. **Stored Procedures**:
   * **recent joiners**: Created a stored procedure to list bankers who joined within the last 2 years as of September 1, 2022.
   * **city\_and\_above\_loan\_amt**: Developed a procedure to retrieve customer details for properties in a specified city with a loan amount above a given threshold.
2. **Complex Queries**:
   * Analysed the number of bankers involved in loans exceeding the average loan amount.
   * Categorized customers based on their tenure with the bank and the value of their properties.
   * Identified customers served by young bankers.
   * Analysed loan issuance in specific cities and excluded certain regions to focus on key metrics.
3. **Views**:
   * Created a view called dallas\_townhomes\_gte\_1m to extract details of loans involving town homes in Dallas with a loan amount exceeding $1 million.

**Dashboard Creation**

Finally, I developed dashboards in Excel to visualize the data insights derived from the SQL queries. These dashboards provide an interactive and intuitive way to analyse loan distributions, customer demographics, banker performance, and city-wise loan trends.