**Scholar Success Fund: Advanced Database System for Financial Aid**

**Purpose:** Our main goal is to use SQL Server Management Studio to create an advanced database system that complies with banking standards and provides financial aid to students for education in the form of scholarships and educational loans.

**Information stored:** The database system will store information about the student, their academic records, their eligibility for scholarship or loans, co-borrowers’ details, and the university information. It will also include loan application history, bank regulations about loans and scholarships, and other relevant data.

**How it is useful:** Through this system, we seek to efficiently analyze and determine student’s eligibility for education loans and scholarships, leveraging a wide range of financial and educational criteria. Ultimately, it ensures fair distribution of financial aid, promoting educational access and student success.

**Project Key Features:**

* Student Data Management: Store and manage information about students including personal details, academic records, and financial status.
* Loan Eligibility Assessment: Evaluate the eligibility of students for education loans based on factors such as income, credit history, academic performance, and course details.
* Scholarship Criteria Definition: Define criteria for awarding scholarships based on parameters like merit, financial need, academic history, gender, race, and other factors.
* Application Processing: Handle loan and scholarship applications submitted by students, track their status, and manage document verification.
* Reporting and Analytics: Generate reports and analytics to track loan disbursements, scholarship awards, default rates, and overall financial performance.

**Target Audience:**

* Bank Officials: Loan officers, financial analysts, and decision-makers responsible for assessing loan applications and scholarship eligibility.
* Students: Individuals seeking education loans or scholarships to finance their academic pursuits.
* Educational Institutions: Colleges and universities collaborating with the bank to facilitate student financing options.

**Various types of information stored in each of the tables:**

**Student Details Table:** Stores essential information about students including personal details, contact information, family background, and demographic data. It is a dimensional table.

**Student Details:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Not Null/ Null** | **Constraint** | **PK** | **Purpose of the column** |
| ApplicantID | VARCHAR | 10 | Not Null | PK | Yes | Serves as a unique identifier for each student. |
| Name | VARCHAR | 50 | Not Null |  | No | Stores student’s full name. |
| Address | VARCHAR | 100 | Not Null |  | No | Store student’s full address. |
| PhoneNumber | VARCHAR | 10 | Not Null |  | No | Stores student’s contact number. |
| Email | VARCHAR | 50 | Not Null |  | No | Stores student’s email address. |
| DisabilityStatus | VARCHAR | 1 | Not Null |  | No | Indicates if the student has a disability. It has a Y/N value. |
| Gender | VARCHAR | 10 | Not Null |  | No | Student’s gender |
| Race | VARCHAR | 15 | Not Null |  | No | Student’s racial background |

**Co-Borrower Details Table:** Contains data related to co-borrowers, including their personal information and occupation. It is a dimensional table.

**Co-Borrower Details**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Not Null/ Null** | **Constraint** | **PK** | **Purpose of the column** |
| ApplicantID | VARCHAR | 10 | Not Null | PK, FK | Yes | Serves as a unique identifier for each student. |
| CoBorrowerID | VARCHAR | 10 | Not Null | PK | Yes | Serves as a unique identifier for each Co-Borrower. |
| CoBorrowerName | VARCHAR | 50 | Not Null |  | No | Stores co-Borrower’s full name. |
| CoBorrowerAddress | VARCHAR | 100 | Not Null |  | No | Stores Co-Borrower’s full address. |
| CoBorrowerPhonenumber | VARCHAR | 10 | Not Null |  | No | Stores Co-Borrower’s contact number. |
| CoBorrowerEmail | VARCHAR | 50 | Not Null |  | No | Stores Co-Borrower’s email address. |
| Occupation | VARCHAR | 25 | Not Null |  | No | Stores Co-Borrower’s occupation. |
| CreditScore | INT |  | Not Null |  | No | Stores Co-Borrower’s credit score for Loan eligibility. |
| RelationshipToStudent | VARCHAR | 25 | Not Null |  | No | Stores Co-Borrower’s relationship to the student. |

**Co-Borrower Financial Details Table:** Records financial details of co-borrowers such as income, credit score, and loan history. It is a dimensional table.

**Co-Borrower Financial Details**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Not Null/ Null** | **Constraint** | **PK** | **Purpose of the column** |
| CoBorrowerID | VARCHAR | 10 | Not Null | PK, FK | Yes | Serves as a unique identifier for each Co-Borrower. |
| Income | DECIMAL | (10,2) | Not Null |  | No | Stores Co-Borrower’s Annual income. |
| Credit Score | INT |  | Not Null |  | No | Stores Co-Borrower’s Credit Score. |
| ActiveLoans | VARCHAR | 1 | Not Null |  | No | Stores whether Co-Borrower has any active loan(Y/N). |
| PastLoans | VARCHAR | 1 | Not Null |  | No | Stores whether Co-Borrower has any past outstanding loan(Y/N). |

**Student Academic Details Table:** Stores academic details of students including their educational background, GPA, and scholarship history. It is a dimensional table.

**Student Academic Details**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Not Null/ Null** | **Constraint** | **PK** | **Purpose of the column** |
| ApplicantID | VARCHAR | 10 | Not Null | PK, FK | Yes | Serves as a unique identifier for each Student. |
| HighestEducationCompleted | VARCHAR | 25 | Not Null |  | No | Stores the highest education completed by students. |
| CurrentEducation | VARCHAR | 25 | Not Null |  | No | The education which he is pursuing now. This could be NULL. |
| WorkingProfessional | VARCHAR | 1 | Not Null |  | No | Is the student a working professional or not(Y/N). |
| GPA | DECIMAL | (3,2) | Not Null |  | No | The GPA for his highest completed education. |
| AnyPastScholarship | VARCHAR | 1 |  |  | No | Does the student have got any past scholarship(Y/N). |

**Student Income Details Table:** Captures information about the income of students including their employer details, job title, and annual income. It is a dimensional table.

**Student Income Details**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Not Null/ Null** | **Constraint** | **PK** | **Purpose of the column** |
| ApplicantID | VARCHAR | 10 | Not Null | PK, FK | Yes | Serves as a unique identifier for each Student. |
| Employer | VARCHAR | 50 | Not Null |  | No | Stores the employer’s name where the student works. |
| EmployerContactNumber | VARCHAR | 10 | Not Null |  | No | Stores the employer’s phone number where the student works. |
| JobTitle | VARCHAR | 25 | Not Null |  | No | Stores the student’s job title. |
| AnnualIncome | DECIMAL | (10,2) | Not Null |  | No | Stores the student’s annual income. |
| CreditScore | INT |  | Not Null |  | No | Stores the student’s credit score. |
| CoBorrowerID | VARCHAR | 10 | Not Null | FK | No | Serves as a unique identifier for each Co-Borrower. |

**Approved Institutions Table:** Stores details about institutions approved for loans and scholarships, including their tier level and average grants. It is a dimensional table.

**Approved Institutions**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Not Null/ Null** | **Constraint** | **PK** | **Purpose of the column** |
| UniversityID | VARCHAR | 10 | Not Null | PK, FK | Yes | Serves as a unique identifier for all the universities for which loan/scholarship can be approved. |
| UniversityName | VARCHAR | 100 | Not Null |  | No | Stores University Name |
| ApprovedforLoan | VARCHAR | 1 | Not Null |  | No | Does our institution approve a loan for this university(Y/N). |
| ApprovedforScholrship | VARCHAR | 1 | Not Null |  | No | Does our institution approve a scholarship for this university(Y/N). |
| InstitutionTierLevel | VARCHAR | 10 | Not Null |  | No | The tier level for university. Is it Ivy league or Tier 1, 2, 3. |
| AverageLoanGranted | DECIMAL | (10,2) | Not Null |  | No | Average loan granted for this university. |
| AverageScholarshipGranted | DECIMAL | (10,2) | Not Null |  | No | Average scholarship given for this university. |

**Scholarship Eligibility Table:** Records eligibility criteria and amounts for scholarships. It is a dimensional table.

**Scholarship Eligibility**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Not Null/ Null** | **Constraint** | **PK** | **Purpose of the column** |
| ScholarshipID | VARCHAR | 10 | Not Null | PK | Yes | Serves as a unique identifier for all the scholarships that it provides. |
| Type | VARCHAR | 50 | Not Null |  | No | Stores the type of the scholarship like Merit-based or need-based. |
| Category | VARCHAR | 50 | Not Null |  | No | Category for scholarship. Like disability, gender. |
| Amount | DECIMAL | (10,2) | Not Null |  | No | Scholarship amount given for this category. |

**Application Table:** Contains information about the application made by the student for loan. It includes course details, fees, and scholarship amounts offered. It is a fact (transactional) table.

**Application**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Not Null/ Null** | **Constraint** | **PK** | **Purpose of the column** |
| ApplicantID | VARCHAR | 10 | Not Null | PK, FK | Yes | Serves as a unique identifier for each Student. |
| ApplicationDate | DATE |  | Not Null |  | No | Date on which application was filed. |
| UniversityID | VARCHAR | 10 | Not Null | FK | No | Serves as a unique identifier for all the universities for which loan/scholarship can be approved. |
| UniversityName | VARCHAR | 25 | Not Null |  | No | Stores university’s name for which loan is requested. |
| Course | VARCHAR | 25 | Not Null |  | No | Stores Course the student wants to study. |
| Degree | VARCHAR | 25 | Not Null |  | No | Stores degree the student wants to study. |
| Address | VARCHAR | 50 | Not Null |  | No | Address of the University. |
| CourseFees | DECIMAL | (10,2) | Not Null |  | No | Course Fees which student is requesting loan for. |
| ScholarshipAmountbyUniversity | DECIMAL | (10,2) | Not Null |  | No | If a university is giving any scholarship to a student. |
| AmountRequestedforLoan | DECIMAL | (10,2) | Not Null |  | No | The amount requested by the student for loan. |
| StatusofLoanApplication | VARCHAR | 50 | Not Null |  | No | Status of Loan application. Submitted, In Process, Under Review, Approved. |

**Approved Loans Table:** This table has information about the approved loans. It is a fact (transactional) table.

**Approved Loans**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Not Null/ Null** | **Constraint** | **PK** | **Purpose of the column** |
| ApplicantID | VARCHAR | 10 | Not Null | PK | Yes | Serves as a unique identifier for all the scholarships that it provides. |
| University ID | VARCHAR | 25 | Not Null |  | No | Stores the type of the scholarship like Merit-based or need-based. |
| Approved Loan Amount | DECIMAL | (10,2) | Not Null |  | No | Category for scholarship. Like disability, gender. |
| Approved Scholarship Amount | DECIMAL | (10,2) | Not Null |  | No | Scholarship amount given for this category. |
| Valid Through | DATE |  | Not Null |  | No | The entire duration till the loan is active |
| Interest Rate | Decimal | (5,2) | Not Null |  | No | The interest rate applicable for the loan |

**Disbursement Table:** The information about all the disbursements done for the loan is stored in this table. It is a fact (transactional) table.

**Disbursement**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Size** | **Not Null/ Null** | **Constraint** | **PK** | **Purpose of the column** |
| DisbursementID | VARCHAR | 10 | Not Null | PK, FK | Yes | Serves as a unique identifier for the disbursment. |
| ApplicantID | VARCHAR | 10 | Not Null | FK | No | Serves as a unique identifier for each Student. |
| ScholarshipID | VARCHAR | 10 | Not Null |  | No | Serves as a unique identifier for scholarship. |
| Disbursement Date | DATE |  | Not Null |  | No | The date on which disbursement was done. |
| Amount | DECIMAL | (10,2) | Not Null |  | No | Amount disbursed. |