Book\_Details  
Borrower\_Details  
Student\_Details  
Shelf\_Details

**Book\_Details:**

1. **CREATE** **TABLE** Book\_Details
2. (
3. ISBN\_Code int **PRIMARY** **KEY**,
4. Book\_Title varchar(100),
5. Language **varchar**(10),
6. No\_Copies\_Actual int,
7. No\_Copies\_Current int,
8. Category\_Name varchar(50)
9. Publication\_year int
10. )

1. **INSERT** **INTO** Book\_details
2. **VALUES**('0006','Programming Concept','English',2,20,15,2,2006);

This is the master table for all the books that are available in the Library. This table contains the complete list of books that are available in the library. Each Book id provided with a unique ISBN which serves as a primary key. The book details include the ISBN, Book Title, the year in which that particular book was published, the type of binding either soft cover or hard cover and the category.  
  
**Columns  
  
ISBN:**This is unique ID given to every book .Since there may be a large no. of books with same TITLE, this ISBN no. will help us to distinguish between books of same title.  
  
**Book\_Title:** Provides the name of the book.  
 **Publication\_year**: Contains the year of publication in ‘YY’ format (eg:2009à09)  
 **Language:** Contains the language in which this book was published.

**Category\_Type**

This column contains the Category ID whose details can be fetched form the category\_master table. The category ID is a Unique number given to each category.

**No\_Of\_Copies\_Actual:** This column contains the total no. of copies of each book that were initially present.  
  
**No\_Of\_Copies\_Current:** This column contains the total no. of copies of each book that were currently available .

**Category\_Details:**

1. **CREATE** **TABLE** Category\_Details
2. (
3. Category\_Id int **PRIMARY** **KEY**,
4. Category\_Name varchar(50)
5. )
6. **INSERT** **INTO** CATEGORY\_DETAILS **VALUES**(1,'Database');
7. **INSERT** **INTO** CATEGORY\_DETAILS **VALUES**(2,'Programming Language');

**Building Relationship between Book & Category Table:**

1. **ALTER** **TABLE** Book\_details
2. **ADD** **CONSTRAINT** Category\_Id\_FK **FOREIGN** **KEY**(Category\_Id) **REFERENCES** Category\_Details(Category\_Id);

**Checking Relationship:**

1. selectb.Book\_Title,e.Category\_Name
2. fromBook\_Detailsb,Category\_Details e
3. whereb.binding\_id = e.Category\_id;

This includes the Category ID and Category Name. The Category ID servers as a primary key.  
Columns:  
  
**Category \_ID:**This column contains the Unique number that was given to each type of Category.  
 **Category \_Name:** This column give the names of different types of categories.

**Borrower\_Details:**

**Creating Borrower Table:**

1. **CREATE** **TABLE** Borrower\_Details
2. (
3. Borrower\_Id int **PRIMARY** **KEY**,
4. Book\_Id int,
5. Borrowed\_From **date**,
6. Borrowed\_TO **date**,
7. Actual\_Return\_Date **date**,
8. Issued\_by int
9. )

**Inserting Some data in Category Table:**

1. **Insert** **into** BORROWER\_DETAILS **VALUES**(1,0004,'01-Aug-2014','7-Aug-2014','7-Aug-2014',1)
2. **Insert** **into** BORROWER\_DETAILS **VALUES**(2,6,'02-Aug-2014','8-Aug-2014',NULL,1)

**Building Relation Between Book & Borrower Table:**

1. **ALTER** **TABLE** Borrower\_details **ADD** **CONSTRAINT** Book\_Id\_FK **FOREIGN** **KEY**(Book\_Id) **REFERENCES** Book\_Details(ISBN\_Code);

**Checking Relationship:**

1. Select Borrower\_Details.Borrower\_id,Book\_Details.Book\_title
2. from Borrower\_Details,Book\_Details
3. where Borrower\_Details.book\_id=Book\_Details.ISBN\_Code

1. **ALTER** **TABLE** Borrower\_Details
2. **ADD** **CONSTRAINT** Issued\_by\_FK **FOREIGN** **KEY**(Issued\_by) **REFERENCES** Staff\_Details(Staff\_Id);

This table contains the details of all the persons who lent a book from the library. Each Student will be given a Unique borrower ID. All the library related activity for a particular person will be captured based on the Borrower ID. This table will be used to track the borrowing records. The borrower ID will serve as a primary key here.  
  
**Columns:**  
**Borrower\_ID:**Unique ID given to each Student.  
 **Book\_ID:**This column contains the book ID which was give to the borrower.  
  
**Borrowed\_From\_Date:**The date on which the book was given a particular borrower.  
 **Borrowed\_To\_Date:**The date on which that book was supposed to be returned back or should be renewed.  
  
**Actual\_Return\_date:**The date on which the borrower returned the book to the library.  
  
**Issued\_by:**The ID of the Librarian who issued book to the borrower.

**Student\_Details:**

**Creating Student Table:**

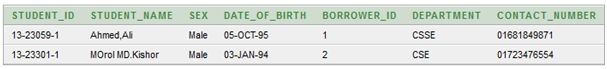
1. **Create** **TABLE** Student\_Details
2. (
3. Student\_Id varchar(10) **PRIMARY** **KEY**,
4. Student\_Name varchar(50),
5. Sex **Varchar**(20),
6. Date\_Of\_Birth **date**,
7. Borrower\_Id int,
8. Department **varchar**(10),
9. contact\_Number varchar(11)
10. )

**Inserting Some Data in Student Table:**

1. **Insert** **into** STUDENT\_DETAILS **values** ('13-23059-1','Ahmed,Ali','Male','05-Oct-1995',1,'CSSE','01681849871');
2. **Insert** **into** STUDENT\_DETAILS **values** ('13-23301-1','MOrol MD.Kishor','Male','03-Jan-1994',2,'CSE','01723476554');

**All Data of Student Table:**

1. **select** \***from** student\_details

  
  
**Building Relationship between student and Borrower table:**

1. **ALTER** **TABLE** student\_details
2. **ADD** **CONSTRAINT** borrower\_id\_FK **FOREIGN** **KEY**(Borrower\_Id) **REFERENCES** Borrower\_Details(Borrower\_Id);

**Checking Full Relationship:**

1. **select** student.student\_id, student.student\_name, book.Book\_Title, staff.staff\_name, b.Borrowed\_To
2. fromstudent\_Detailsstudent, Staff\_Detailsstaff, Borrower\_Detailsb, book\_details book
3. wherestudent.Borrower\_id = b.Borrower\_id and book.ISBN\_Code = b.book\_id and b.Issued\_by

This table contains the details of all the students they are eligible for availing Library facilities. Each student will be provided with a unique Student ID and Borrower ID. The student ID will be Primary Key, whereas Borrower\_ID and Phone\_no will be Unique.  
  
**Columns:**  
**Student\_id:**Unique ID given to Each Student.  
  
**Student\_Name:**The Name of the Student.  
  
**Date\_Of\_Birth:**The Date of Birth of the student.  
 **Borrower\_ID:**The borrower ID assigned to each student.  
  
**Department:**This is contains student department.  
  
**Contact\_Number**: Contact number of the student.

**Shelf\_Details:**

**Adding Shelf Table:**

1. **Create** **Table** Shelf\_Details
2. (
3. Shelf\_idint **PRIMARY** **KEY**,
4. Shelf\_Noint,
5. Floor\_Noint
6. );

**Inserting Some Data from Shelf Table:**

1. **Insert** **into** Shelf\_DetailsValues(1, 1, 1);
2. **Insert** **into** Shelf\_DetailsValues(2, 2, 10001);
3. **Insert** **into** Shelf\_DetailsValues(3, 1, 10002);

**All Data In Shelf Table:**

1. **select**\***from** Shelf\_Details;

**Adding Relationship Between Shelf and Book Table:**

1. **ALTER** **TABLE** Book\_Details
2. **ADD**(Shelf\_Idint);
4. **UPDATE** Book\_Details **set** Shelf\_Id = 1
5. **where** ISBN\_CODE = 4;
7. **UPDATE** Book\_Details **set** Shelf\_Id = 2
8. **where** ISBN\_CODE = 6;
10. **ALTER** **TABLE** Book\_Details
11. **ADD** **CONSTRAINT** Shelf\_Id\_FK **FOREIGN** **KEY**(Shelf\_Id) **REFERENCES** Shelf\_Details(Shelf\_Id);

This table contain the position of the book…That means which floor and shelf the book is situated.

**Column:**  
  
**Shelf\_Id:**Contains the shelf number.  
  
**Floor:**Which floor the shelf is situated.