Sample and Uncompleted – for your reference of the submission style ONLY
Assignment 1- Library Project
School of SEEC, University of Newcastle, Callaghan, Australia

Data Requirements

1. Catalogue

The library maintains information about its physical and online information sources. Library has many types of physical resources that it maintains which include: books, journals, videorecording, sound recordings, microform materials and theses of the university.

Collections

There are many collections in each library. A collection consists of unique name – "Auchmuty – Serials", etc. and specifies the location where the collection exists physically in the library. A physical item in the library belongs to a collection.

Books

Information on books maintained by the library include authors (principle author and other authors if any), title of the book, publisher information, edition, physical description (which include number of pages, size, etc.), notes of the book (such as previous editions, includes bibliography, etc.), contents of the book, a summary of the book (if available), ISBN/ISSN numbers (there could be many ISSN/ISBN numbers - for instance for US edition, Int'l edition, etc.) and the subject areas to which the book belongs.

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Transaction Requirements (Sample)

Data Manipulation Operations

* Insert/update/delete an item in the library
* Insert/update/delete a copy of item in the library
* Insert/update/delete an online information source
* Insert/update/delete members
…

Queries

* Search an item based on call number, keyword, author, title, subject and journal title
* List present loans by a particular member
* List frequently loaned items for each semester
* Fines report containing information about fines levied and members fined
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Business Rules

- The members should be able to hold items of the library. Requests for holds are given access on a first-come-first-serve basis
- If an item on hold is not collected within 5 days, it will be returned to shelves or the next hold will be activated. A member can have up to 10 holds at any one time

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DOCUMENTATION OF EER MODEL (DATA DICTIONARY)

ENTITY TYPES

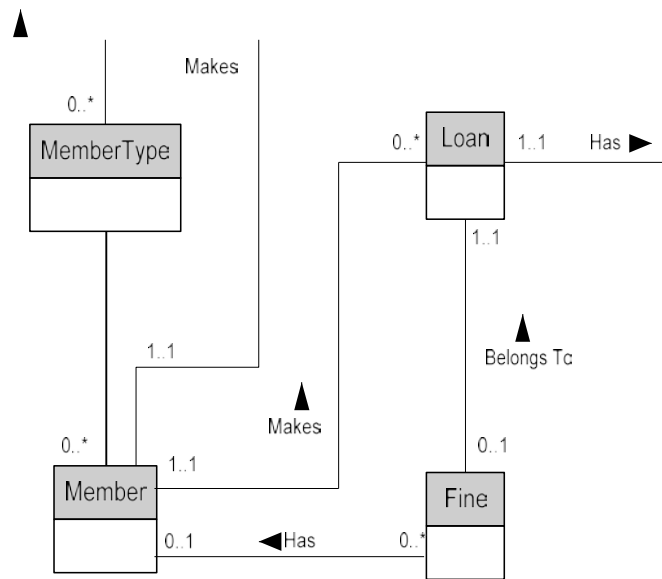| Entity Name	Description	Aliases	Occurrence
Collection	A collection is a physical collection of items in the library located at a particular physical location		Physical area of the library is divided into a set of collections
Subject	Each item is classified into a particular subject area. Subject areas provide a classification to which domain/content area an item is classified	Area	All items in the library has one or more subject areas to which it belongs
Author	General term describing all authors	Owner	All authors for items in the library

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RELATIONSHIP TYPES

Entity name	Multiplicity	Relationship	Multiplicity	Entity name
Item	1..*	CategorizedTo	1..*	Subject
	1..1	Has	1..*	CopyOfItem
Book	0..*	FirstAuthor	1..1	Author
	0..*	OtherAuthor	0..*	Author
	0..1	Has	0..*	ISBN_ISSN
SoundRecording	0..*	FirstAuthor	0..1	Author
	0..*	OtherAuthor	0..*	Author

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Sample EER Model of Library Database
(without attributes shown)

1..1

Makes

0..*

MemberType

0..* **Loan** 1..1 Has ▶

1..1

1..1

Makes

Belongs To

0..*

0..1

1..1

Member

Fine

0..1 ◀ Has 0..*

EER Model
(Entities and attributes - without relationships)

MemberType
memberTypeID {PK} name description

ShortLoan
shortLoanID {PK} startDateTime expireDateTime status

Member
memberNo {PK}
PIN
name
first
last
username
password
dateOfBirth
address
number
street name
city
state
postcode
emailAddress
phone
home
mobile
dateJoined
dateMemberExpires
status