(COMP1044)
Database And Interfaces
CW2

Group 5

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TASK A: Summary

1. **Why did we choose the datatypes of each field?**

   We had to choose the datatypes for each table as some of the given datatypes do not give purpose or are not efficient to us. Therefore, we had to choose the datatype based on their functionalities. These are the datatypes and their functionalities in their respective fields.

   Users

   - user_id, username, firstname, lastname, password.
   - **user _id** (Type: int) is the user information's primary key in the table which allocates all its other identifications together. All user_id are in the form of numbers only, thus int type was chosen.
   - **username** (Type: varchar) is a user's chosen name for their user account. The username can contain both numbers and characters so type varchar is appropriate.
   - **firstname** (Type: varchar) and **lastname** (Type: varchar) are the user's first and last name for identification. Names are made of letters so varchar is used.
   - **password** (Type: varchar) is a personal secret word for when a user wants to log into their account. A password can be anything including numbers and letters. Varchar is more appropriate for this field.

   Borrow

   - borrow_id, member_id, due_date, date_borrow.
   - **borrow_id** (Type: int) is the borrowing identification number which also acts as a primary key in the table which allocates the member_id, due_date and date_borrow. borrow_id only consists of numbers so type int can be used.
   - **member_id** (Type: int) is the borrower's library member id. It is different than user_id and only consists of numbers. Type int is suitable for this field.
   - **due_date** (Type: date) is the date when the borrower must return the book. Type date is used because when the book is due is based on date.
   - **date_borow** (Type: datetime) is the date when the user started borrowing the book. Type datetime is used to allow admin to check on whose shift was this book borrowed. Type date would only record the date but there may have more than one person on shift that day.

   Borrowdetails

   - borrow_details_id, book_id, borrow_id, borrow_status, date_return.
   - **borrow_details_id** (Type: int) is the primary key for all the borrowing details in the table. It is in the form of numbers only, so type int is chosen.
   - **book_id** (Type: int) is a foreign key and the identification number for a specific book. All book_id are in numerical form only so type int is used.

- **borrow_id** (Type: int) is a borrowing identification number for all and each borrowing record. It is also a foreign key. All borrow_id is in numerical form so int was used.
- **borrow_status** (Type: varchar) is the status of the borrowed book. The status is either “Pending” or “Returned”. “Pending” is when the book is not yet returned to the library. “Returned” is when the book is already returned to the library. Thus type varchar is suitable for this field.
- **date_return** (Type: datetime) is the date when the book is returned. date_return can only exist if the borrow_status is “Returned”. Type datetime is used because it allows admin to check who was on shift when this book was returned.

Member

- member_id, year_level, status, type, contact, address, gender, firstname, lastname.
- **member_id** (Type: int) is the identification number for a library member. It is also a primary key in the Member table. It consists of numbers only, so type int is used.
- **year_level** (Type: varchar) is the education level of a member in the campus. It could be “First Year”, “Second Year”, “Third Year”, “Fourth Year” or Null Null means that the member is not a student. It records a string so type varchar is used.
- **status** (Type: varchar) is to show if a member is an “Active” member or a “Banned” member. It records a string so type varchar is used.
- **type** (Type: varchar) is to show if the member is a “Student” or a “Teacher”. It records a string so type varchar is used.
- **contact** (Type: int) is the telephone number of a member. A phone number consists of numbers only so type int is used.
- **address** (Type: varchar) is the home address of a member. An address has both number and characters so type varchar is more suitable.
- **gender** (Type: varchar) is the gender of a member. Either “Male” or “Female”. It records a string so type varchar is used.
- **firstname** (Type: varchar) and **lastname** (Type: varchar) are the user’s first and last name for identification. Names are made of letters so varchar is used.

Book

- book_title, book_id, status, date_added, copyright_year, isbn, book_pub, book_copies, author, category.
- **book_title** (Type: varchar) is the title for a book in the library. The title may have numbers or letters so varchar is suitable.
- **book_id** (Type: int) is the identification number for a specific book. Multiple copies of the same book have samebook_id. The book_id consists of numbers only so type int is used.

- **status** (Type: varchar) is the condition of a book. It can be “New”, “Old”, “Damage”, “Lost” or “Archive”. It records a string so type varchar is used.
- **date_added** (Type: datetime) is the date when the book title is added to the virtual library. Type datetime is used because it is more specific and allows admin to track who added the book easier.
- **copyright_year** (Type: year) is the date when the book is published. Only the year is recorded so type year is enough for this feild.
- **isbn** (International Standard Book Number) (Type: varchar) is a special identification number for a book that came from the publisher. Type varchar is used because an isbn may contain the letter X and numbers.
- **book_pub** (Type: varchar) is the publisher of a book. The name of a publisher may contain numbers and characters so type varchar is suitable.
- **book_copies** (Type: int) is the number of copies of a book in the library. This is a numerical value so type int is suitable.
- **author** (Type: varchar) is the author name of a book. Names are made of letters so varchar is used.
- **category** (Type: varchar) is the genre of a book. It can be “Periodical”, “English”, “Math”, “Science”, “Encyclopedia”, “Filipiniana”, “Newspaper”, “General” or “References”. It records a string so type varchar is used.

2. **The reason behind the design of the tables and connections between the tables including PK and FK?**

Users

- The Users table is for a user to log into their account on the library's website. Thus it is not connected to any other tables.
- **user_id** is the PK of the table because it is a unique identifier for the records in this table.

Borrow

- The Borrow table is for a user to input borrow_id into the website so that they can find the details of the borrowed book. The table has some brief information about a borrowed book like due_date and date_borrow. It is connected to the member table to record which member has borrowed a book from the library before.
- **borrow_id** is the PK of the table because it is unique.
- **member_id** is an FK in the table. Borrow table needs to be connected to member table because only Active members can borrow a book.

Borrowdetails

- Borrowdetails table stores all the borrowing details of a book and acts as an extension of the Borrow table. It is connected to book table and borrow table so that admin can see what book was borrowed by who as well as important information like whether the books has been returned yet.
- **borrow_ details_id** is the PK of the table to identify each record.
- **book_id** and **borrow_id** are the FK of the table. **book_id** is an FK because it can help show the details of the book from the Book table. **borrow_id** is an FK because it links a book from the Borrow table.

Member

- Member is a table that contains all the details of a library member. This also acts as an extension of the Borrow table because the user/member is only eligible to borrow a book only if their status in the Member table is "Active" instead of "Banned".
- **member_id** is the PK of the table to uniquely identify each record.

Book

- Book is a table that contains all the details of a book in the library. This also acts as an extension to the Borrowdetails table because it can provide the details of a borrowed book.
- **book_id** is the PK of the table to uniquely identify each record..

3. **What kinds of errors did we find in the dataset?**

From the given dataset, we have found errors in the member, type, book, borrow and category tables. Some errors we found were missing information, information with wrong data type, as well as redundancies in design of the tables in the dataset.

In the ‘member’ table, we found some errors in the ‘year_level’ column. This is due to the data ‘Faculty’ being irrelevant to the data type in said column.

In the table ‘type’, we found the table rather redundant as there are only two columns ‘id’ and ‘borrowertype’ with each unique data. For example, we could use either column as the primary key.

In the table ‘book’, we found two columns with similar data. This would be an inefficient use of storage space. For example, the columns, ‘book publisher’ and ‘publisher name’ have the same data. Furthermore, we found that in the column ‘date_received’ the data is empty.

In the borrow table, one of the given data is illogical. The date_borrow is 20th March 2014 but due_date is 3rd January 2014.

In the table ‘category’, there are two columns ‘category_id’ and ‘classname’ each with unique data. Thus, we could use either as a primary key and it is rather inefficient thus we find that the table is rather impractical.

4. **How did we find the completeness of the dataset?**

From the given dataset, some tables are missing information. For example, an empty column can be noticed from table ‘book’.

The relationship between Foreign keys and Primary keys between tables must be correct and both column data must be matched. When we use SQL JOIN, there will be no error.

Next, we can use ETL testing method to test and verify the completeness of the dataset. For example, we can use SQL query to check the number of records in the source file. We can compare the count of number of records by writing the following queries, such as

```
SELECT count(*) FROM book;
SELECT count(*) FROM borrow;
```

For the next query, this will compare the distinct values and the count of rows for each distinct value, such as

```
SELECT book_id, count(*) FROM book GROUP BY book_id;
```

Next, we can check for duplicate data,
it involves validating the primary key and the unique key in a column or in combination of columns that should be unique, such as

```
SELECT book_id, book_title, author, count(1) FROM book
GROUP BY book_id, book_title HAVING count(1)>1;
```

5. How did we address those problems?

In the table ‘member’, we have decided that Faculty does not fit under the column ‘year_level’ and have replaced it with default type NULL because all Teacher type hold the same data and thus does not have any effect even with the removal of data Faculty. The user can still find members who are Faculty by searching for Teacher under ‘type’ column instead.

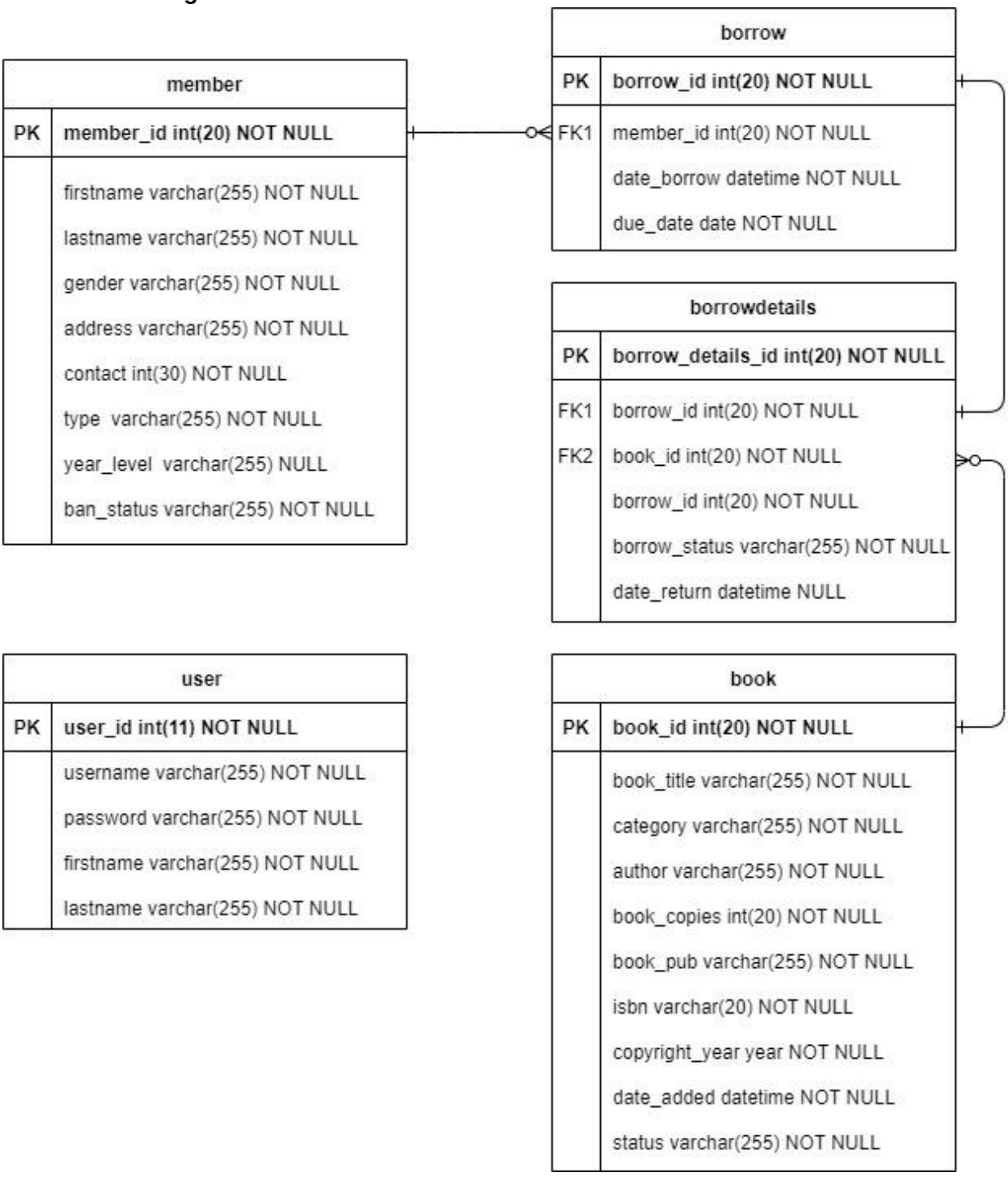
For the error of redundancy related to the ‘type’ table, we have decided to merge the column ‘borrowertype’ from ‘type’ table into the column ‘type’ in ‘member’ table. Therefore, we are able to eliminate the need for a separate table to store types. It would be easier for the user of the system to observe which type each member falls under when it is displayed in the table itself rather than having to look through another table.

For the error related to similar data in ‘book’ table, we decided to transfer data that was missing in column ‘book_pub’ from column ‘publisher_name’. For example, in row 14 and row 15, we copied the data from ‘publisher_name’ to be added into ‘book_pub’. We then remove the column ‘publisher_name’ because it conveys the same information as ‘book_pub’. We removed the column ‘date_received’ since it does not contain any data and will not give an impact to other tables or columns.

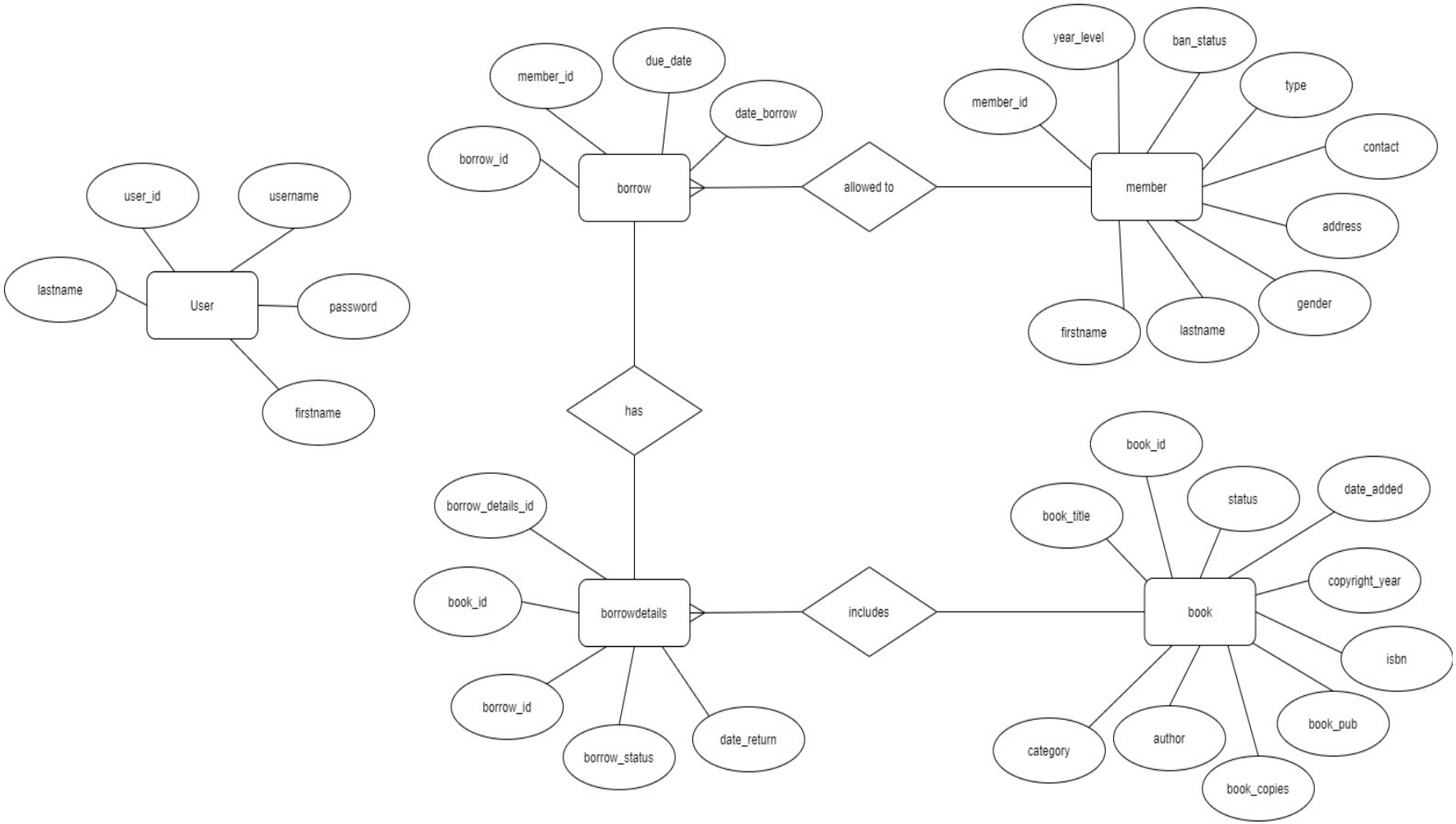
Regarding the error in the date_borrow and due_date for table ‘borrow’, we edited the due date to 21st March 2014 which is the day after the date_borrow in accordance to the pattern of other example data given.

We removed the need for a separate ‘category’ table by merging column ‘classname’ from ‘category’ table to column ‘category_id’ in ‘book’ table. We are able to reduce the number of tables needed in this dataset as well as make it more convenient for the user to read the information.

TASK B: ER Diagram 1

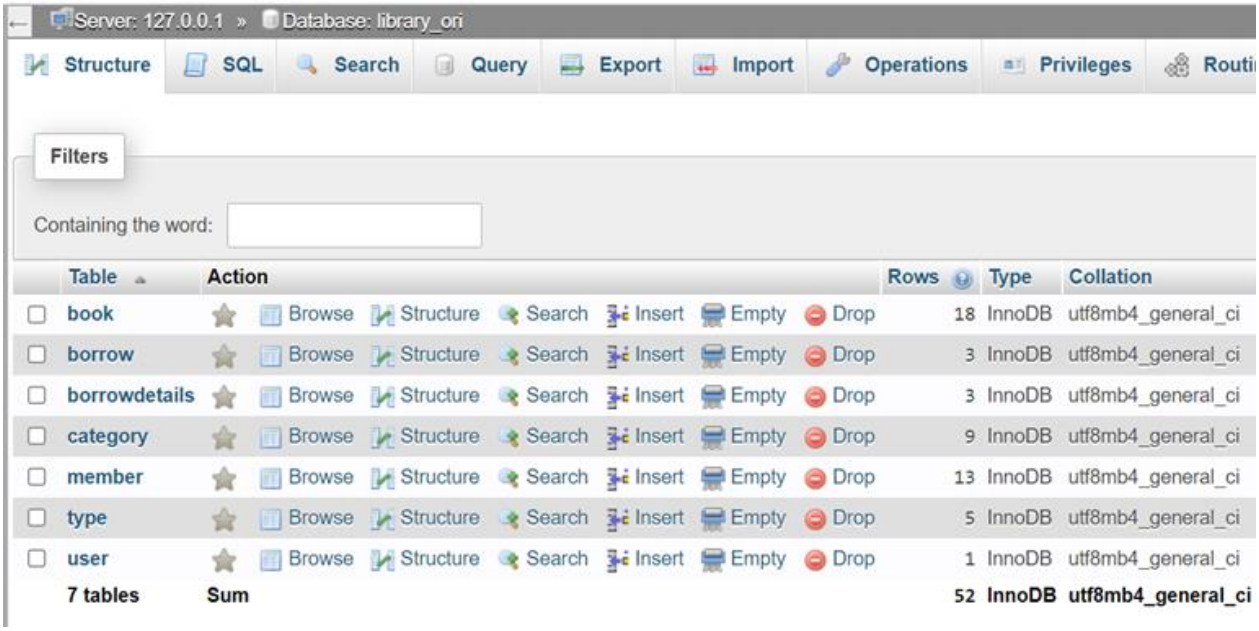


ER Diagram 2

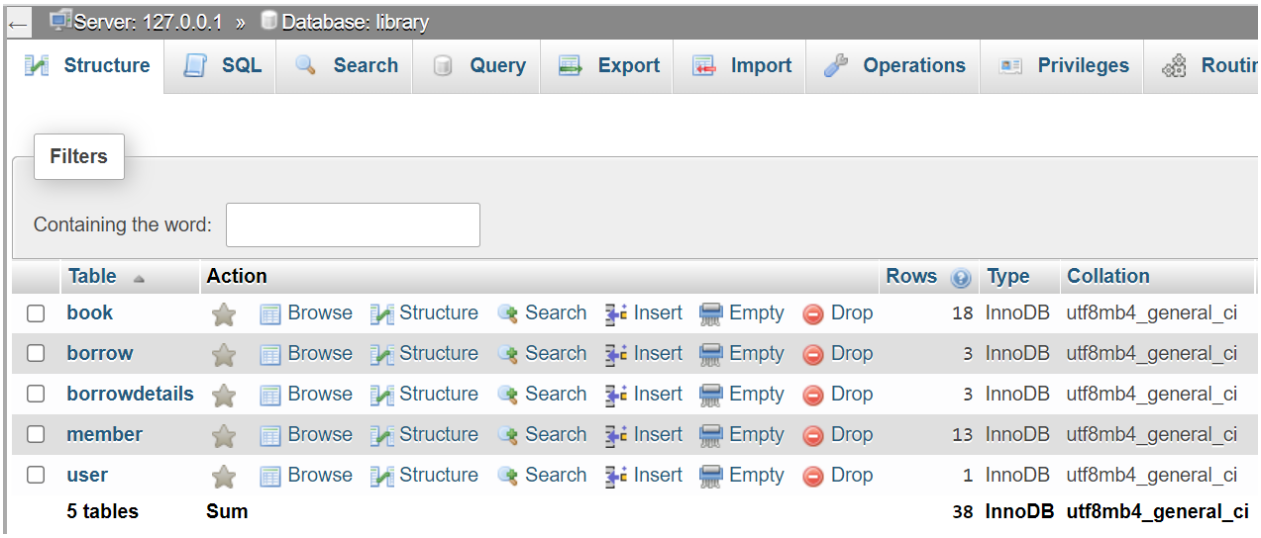

user_id
username
lastname
User
password
firstname
member_id
due_date
date_borrow
borrow_id
borrow
allowed to
year_level
ban_status
type
member_id
contact
member
address
gender
firstname
lastname
has
borrow_details_id
book_id
borrowdetails
includes
borrow_id
borrow_status
date_return
book_id
status
date_added
book_title
copyright_year
book
isbn
book_pub
category
author
book_copies

TASK B: Database Design

Before

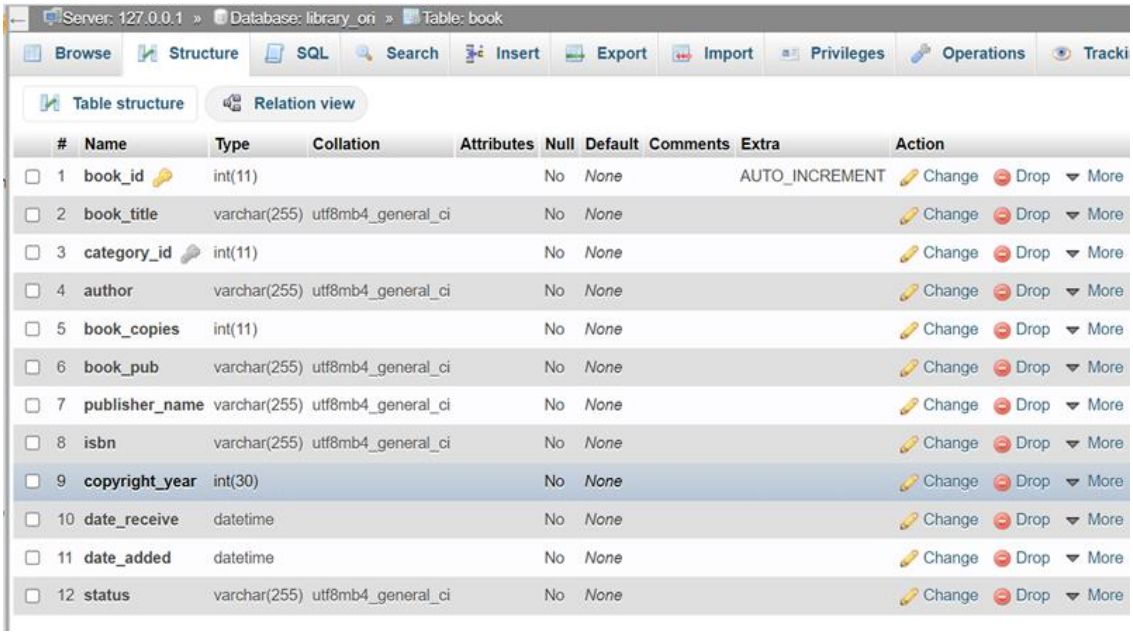


After



Book Table, Category Table ⇒ Book Table

Book Table Before: Structure



#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	book_id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	book_title	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
3	category_id	int(11)			No	None			Change Drop More
4	author	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
5	book_copies	int(11)			No	None			Change Drop More
6	book_pub	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
7	publisher_name	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
8	isbn	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
9	copyright_year	int(30)			No	None			Change Drop More
10	date_receive	datetime			No	None			Change Drop More
11	date_added	datetime			No	None			Change Drop More
12	status	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

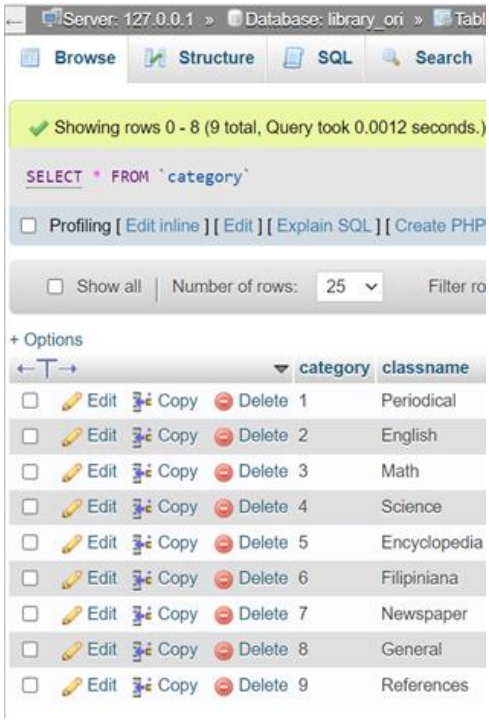
Category Table Before: Structure

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	category	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	classname	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

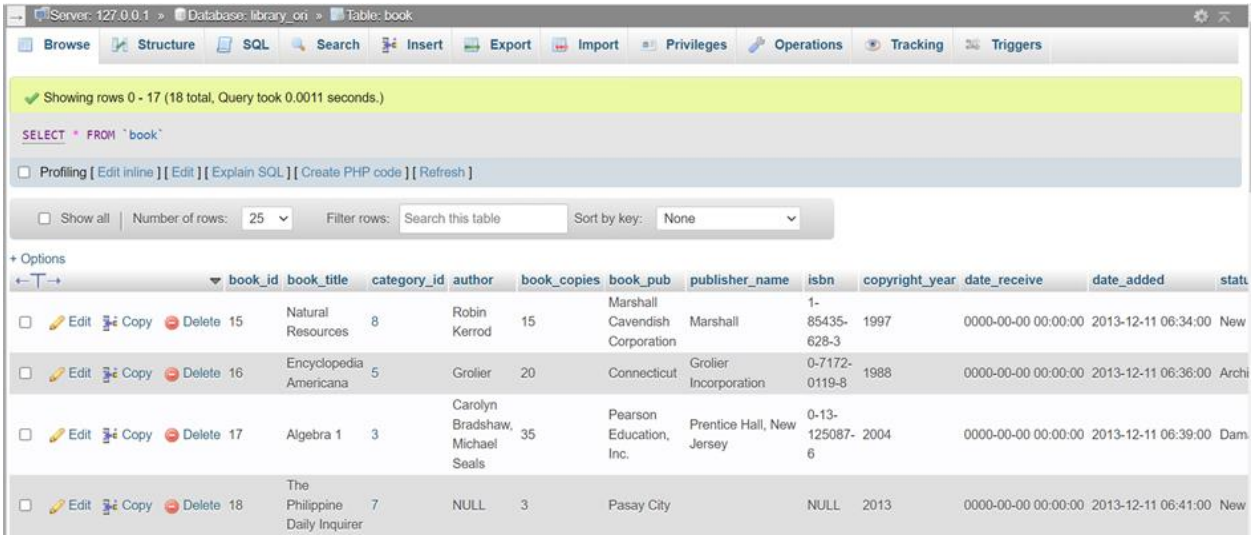
Book Table After: Structure

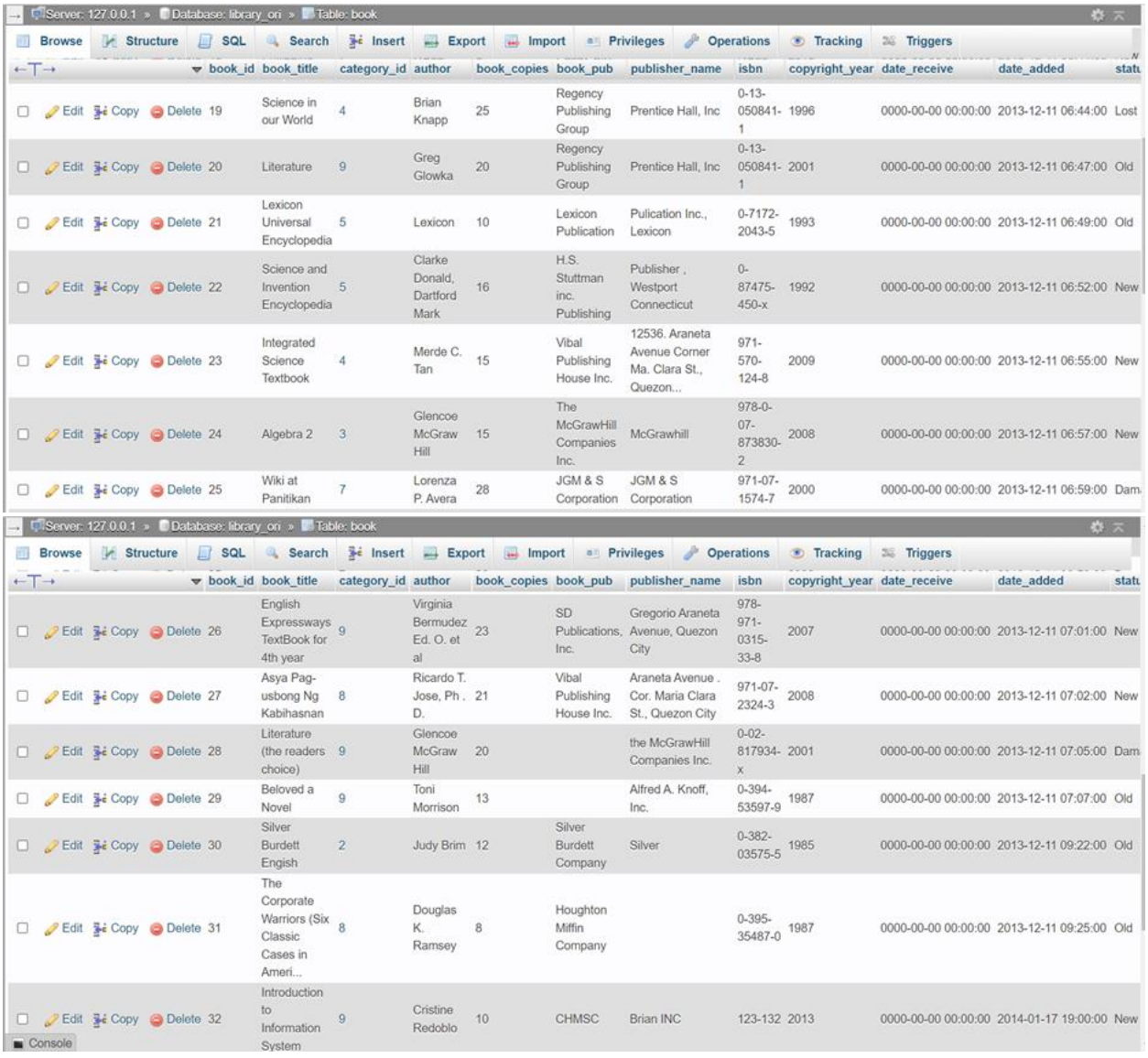
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	book_id	int(20)			No	None		AUTO_INCREMENT	Change Drop More
2	book_title	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
3	category	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
4	author	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
5	book_copies	int(20)			No	None			Change Drop More
6	book_pub	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
7	isbn	varchar(20)	utf8mb4_general_ci		No	None			Change Drop More
8	copyright_year	year(4)			No	None			Change Drop More
9	date_added	datetime			No	None			Change Drop More
10	status	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Category Table Before: Records



Book Table Before: Records





Server: 127.0.0.1 » Database: library_ori » Table: book

Browse | Structure | SQL | Search | Insert | Export | Import | Privileges | Operations | Tracking | Triggers

	book_id	book_title	category_id	author	book_copies	book_pub	publisher_name	isbn	copyright_year	date_receive	date_added	statu
Edit Copy Delete	19	Science in our World	4	Brian Knapp	25	Regency Publishing Group	Prentice Hall, Inc	0-13-050841-1	1996	0000-00-00 00:00:00	2013-12-11 06:44:00	Lost
Edit Copy Delete	20	Literature	9	Greg Glowka	20	Regency Publishing Group	Prentice Hall, Inc	0-13-050841-1	2001	0000-00-00 00:00:00	2013-12-11 06:47:00	Old
Edit Copy Delete	21	Lexicon Universal Encyclopedia	5	Lexicon	10	Lexicon Publication	Pulication Inc., Lexicon	0-7172-2043-5	1993	0000-00-00 00:00:00	2013-12-11 06:49:00	Old
Edit Copy Delete	22	Science and Invention Encyclopedia	5	Clarke Donald, Dartford Mark	16	H.S. Stuttman inc. Publishing	Publisher , Westport Connecticut	0-87475-450-x	1992	0000-00-00 00:00:00	2013-12-11 06:52:00	New
Edit Copy Delete	23	Integrated Science Textbook	4	Merde C. Tan	15	Vibal Publishing House Inc.	12536. Araneta Avenue Corner Ma. Clara St., Quezon...	971-570-124-8	2009	0000-00-00 00:00:00	2013-12-11 06:55:00	New
Edit Copy Delete	24	Algebra 2	3	Glencoe McGraw Hill	15	The McGrawHill Companies Inc.	McGrawhill	978-0-07-873830-2	2008	0000-00-00 00:00:00	2013-12-11 06:57:00	New
Edit Copy Delete	25	Wiki at Panitikan	7	Lorenza P. Avera	28	JGM & S Corporation	JGM & S Corporation	971-07-1574-7	2000	0000-00-00 00:00:00	2013-12-11 06:59:00	Dam

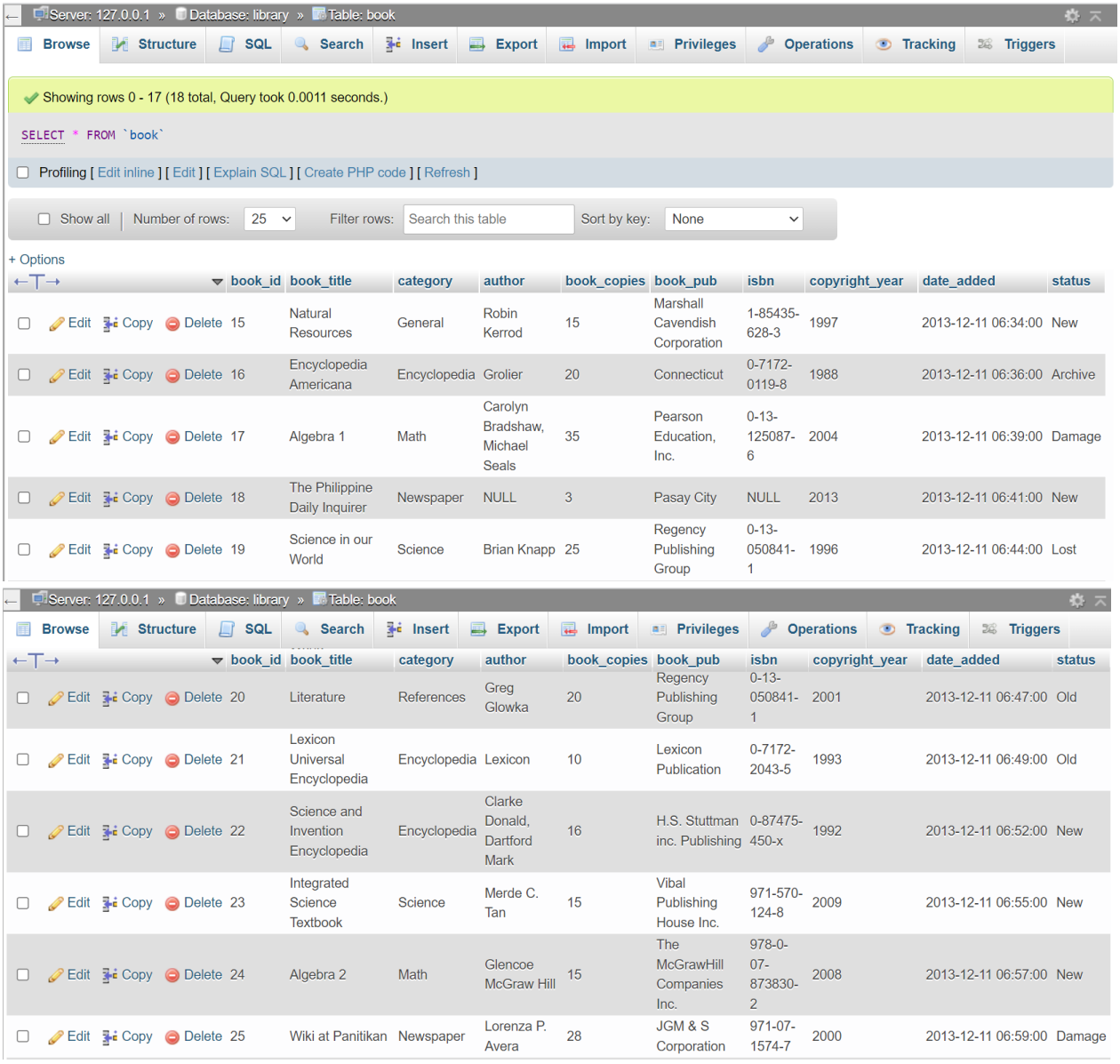
Server: 127.0.0.1 » Database: library_ori » Table: book

Browse | Structure | SQL | Search | Insert | Export | Import | Privileges | Operations | Tracking | Triggers

	book_id	book_title	category_id	author	book_copies	book_pub	publisher_name	isbn	copyright_year	date_receive	date_added	statu
Edit Copy Delete	26	English Expressways TextBook for 4th year	9	Virginia Bermudez Ed. O. et al	23	SD Publications, Inc.	Gregorio Araneta Avenue, Quezon City	978-971-0315-33-8	2007	0000-00-00 00:00:00	2013-12-11 07:01:00	New
Edit Copy Delete	27	Asya Pag-usbong Ng Kabihasnan	8	Ricardo T. Jose, Ph . D.	21	Vibal Publishing House Inc.	Araneta Avenue . Cor. Maria Clara St., Quezon City	971-07-2324-3	2008	0000-00-00 00:00:00	2013-12-11 07:02:00	New
Edit Copy Delete	28	Literature (the readers choice)	9	Glencoe McGraw Hill	20		the McGrawHill Companies Inc.	0-02-817934-x	2001	0000-00-00 00:00:00	2013-12-11 07:05:00	Dam
Edit Copy Delete	29	Beloved a Novel	9	Toni Morrison	13		Alfred A. Knoff, Inc.	0-394-53597-9	1987	0000-00-00 00:00:00	2013-12-11 07:07:00	Old
Edit Copy Delete	30	Silver Burdett Engish	2	Judy Brim	12	Silver Burdett Company	Silver	0-382-03575-5	1985	0000-00-00 00:00:00	2013-12-11 09:22:00	Old
Edit Copy Delete	31	The Corporate Warriors (Six Classic Cases in Ameri...	8	Douglas K. Ramsey	8	Houghton Miffin Company		0-395-35487-0	1987	0000-00-00 00:00:00	2013-12-11 09:25:00	Old
Edit Copy Delete	32	Introduction to Information System	9	Cristine Redoblo	10	CHMSC	Brian INC	123-132	2013	0000-00-00 00:00:00	2014-01-17 19:00:00	New

Console

Book Table After: Records



Server: 127.0.0.1 » Database: library » Table: book

Browse | Structure | SQL | Search | Insert | Export | Import | Privileges | Operations | Tracking | Triggers

Showing rows 0 - 17 (18 total, Query took 0.0011 seconds.)

```
SELECT * FROM `book`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

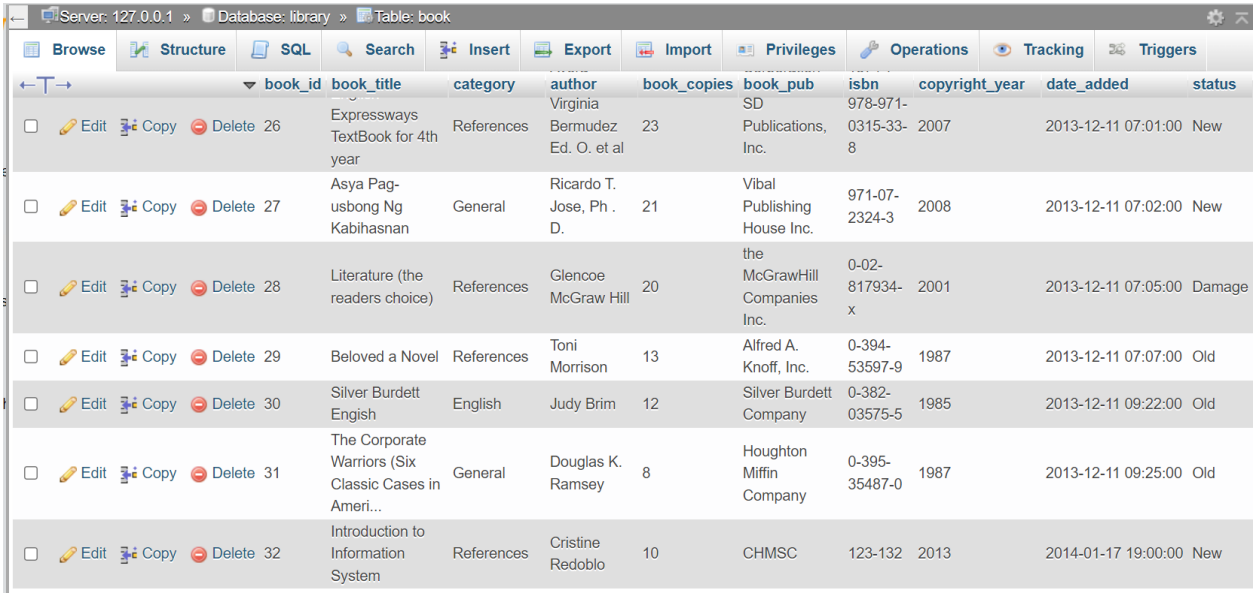
+ Options

	book_id	book_title	category	author	book_copies	book_pub	isbn	copyright_year	date_added	status
Edit Copy Delete	15	Natural Resources	General	Robin Kerrod	15	Marshall Cavendish Corporation	1-85435-628-3	1997	2013-12-11 06:34:00	New
Edit Copy Delete	16	Encyclopedia Americana	Encyclopedia	Grolier	20	Connecticut	0-7172-0119-8	1988	2013-12-11 06:36:00	Archive
Edit Copy Delete	17	Algebra 1	Math	Carolyn Bradshaw, Michael Seals	35	Pearson Education, Inc.	0-13-125087-6	2004	2013-12-11 06:39:00	Damage
Edit Copy Delete	18	The Philippine Daily Inquirer	Newspaper	NULL	3	Pasay City	NULL	2013	2013-12-11 06:41:00	New
Edit Copy Delete	19	Science in our World	Science	Brian Knapp	25	Regency Publishing Group	0-13-050841-1	1996	2013-12-11 06:44:00	Lost

Server: 127.0.0.1 » Database: library » Table: book

Browse | Structure | SQL | Search | Insert | Export | Import | Privileges | Operations | Tracking | Triggers

	book_id	book_title	category	author	book_copies	book_pub	isbn	copyright_year	date_added	status
Edit Copy Delete	20	Literature	References	Greg Glowka	20	Regency Publishing Group	0-13-050841-1	2001	2013-12-11 06:47:00	Old
Edit Copy Delete	21	Lexicon Universal Encyclopedia	Encyclopedia	Lexicon	10	Lexicon Publication	0-7172-2043-5	1993	2013-12-11 06:49:00	Old
Edit Copy Delete	22	Science and Invention Encyclopedia	Encyclopedia	Clarke Donald, Dartford Mark	16	H.S. Stuttman inc. Publishing	0-87475-450-x	1992	2013-12-11 06:52:00	New
Edit Copy Delete	23	Integrated Science Textbook	Science	Merde C. Tan	15	Vibal Publishing House Inc.	971-570-124-8	2009	2013-12-11 06:55:00	New
Edit Copy Delete	24	Algebra 2	Math	Glencoe McGraw Hill	15	The McGrawHill Companies Inc.	978-0-07-873830-2	2008	2013-12-11 06:57:00	New
Edit Copy Delete	25	Wiki at Panitikan	Newspaper	Lorenza P. Avera	28	JGM & S Corporation	971-07-1574-7	2000	2013-12-11 06:59:00	Damage

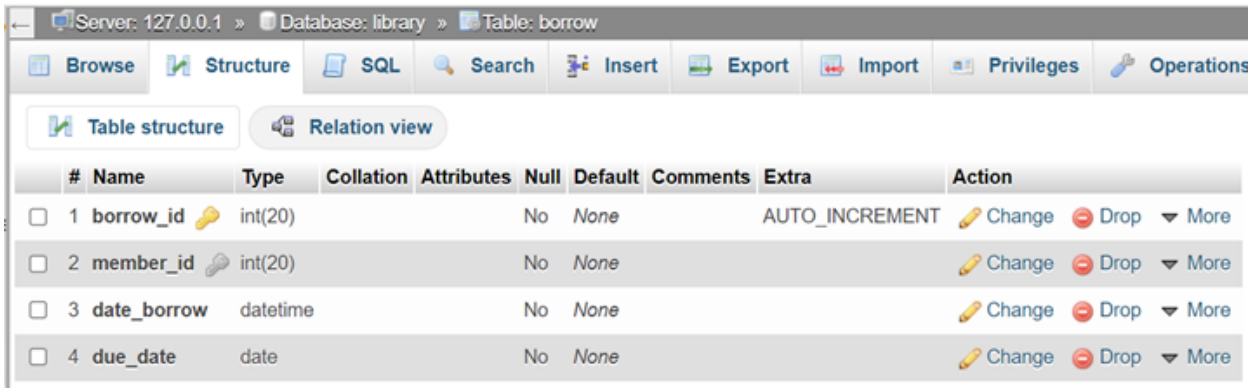


	book_id	book_title	category	author	book_copies	book_pub	isbn	copyright_year	date_added	status
Edit Copy Delete	26	Expressways TextBook for 4th year	References	Virginia Bermudez Ed. O. et al	23	SD Publications, Inc.	978-971-0315-33-8	2007	2013-12-11 07:01:00	New
Edit Copy Delete	27	Asya Pag-usbong Ng Kabihasnan	General	Ricardo T. Jose, Ph . D.	21	Vibal Publishing House Inc.	971-07-2324-3	2008	2013-12-11 07:02:00	New
Edit Copy Delete	28	Literature (the readers choice)	References	Glencoe McGraw Hill	20	the McGrawHill Companies Inc.	0-02-817934-x	2001	2013-12-11 07:05:00	Damage
Edit Copy Delete	29	Beloved a Novel	References	Toni Morrison	13	Alfred A. Knoff, Inc.	0-394-53597-9	1987	2013-12-11 07:07:00	Old
Edit Copy Delete	30	Silver Burdett Engish	English	Judy Brim	12	Silver Burdett Company	0-382-03575-5	1985	2013-12-11 09:22:00	Old
Edit Copy Delete	31	The Corporate Warriors (Six Classic Cases in Ameri...	General	Douglas K. Ramsey	8	Houghton Miffin Company	0-395-35487-0	1987	2013-12-11 09:25:00	Old
Edit Copy Delete	32	Introduction to Information System	References	Cristine Redoblo	10	CHMSC	123-132	2013	2014-01-17 19:00:00	New

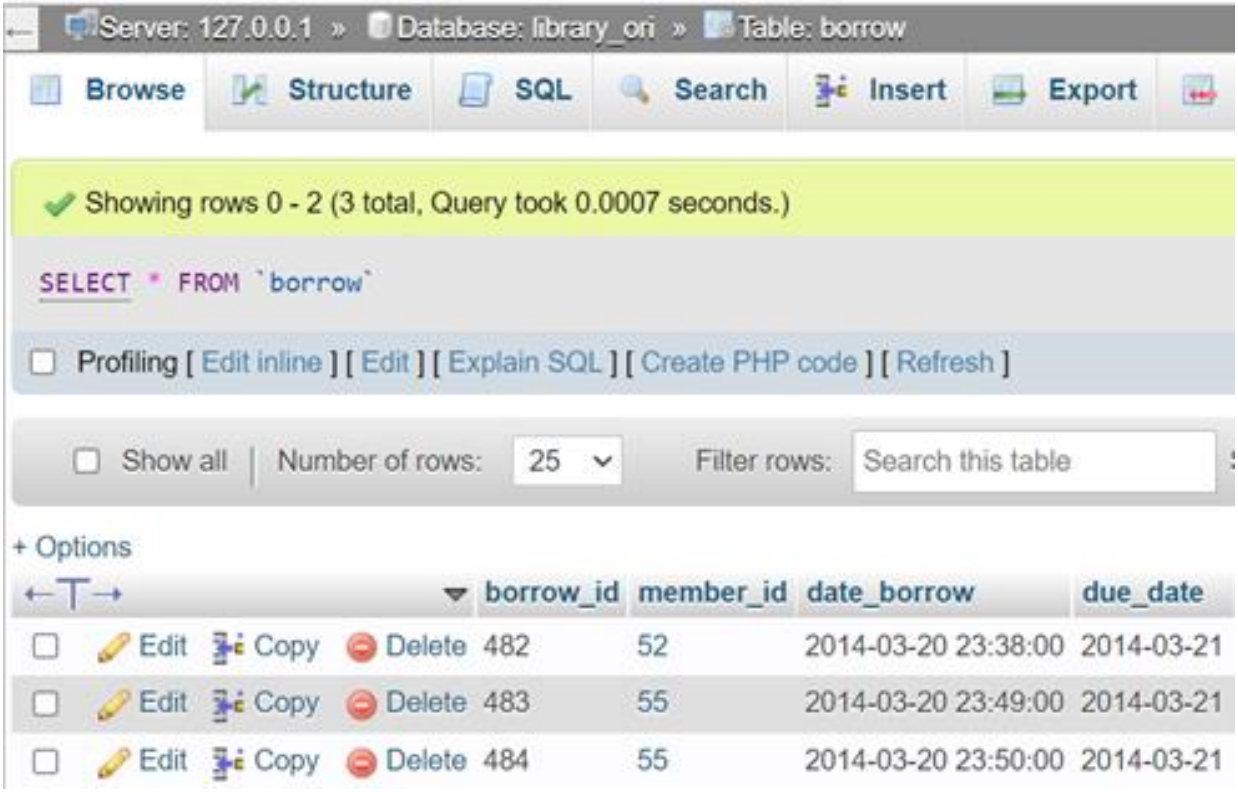
Borrow Table

Before: Structure

After: Structure



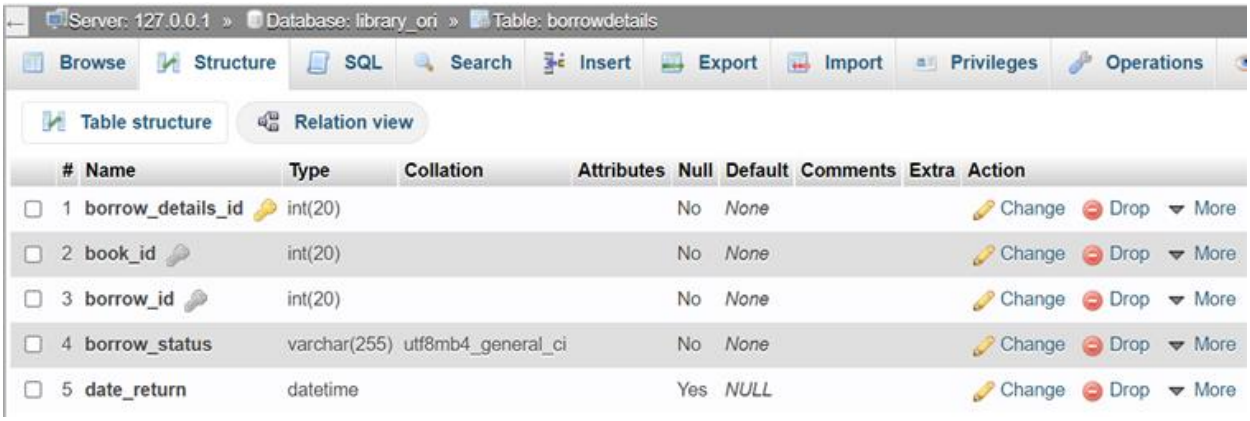
Before: Records



After: Records

Borrowdetails Table

Before: Structure



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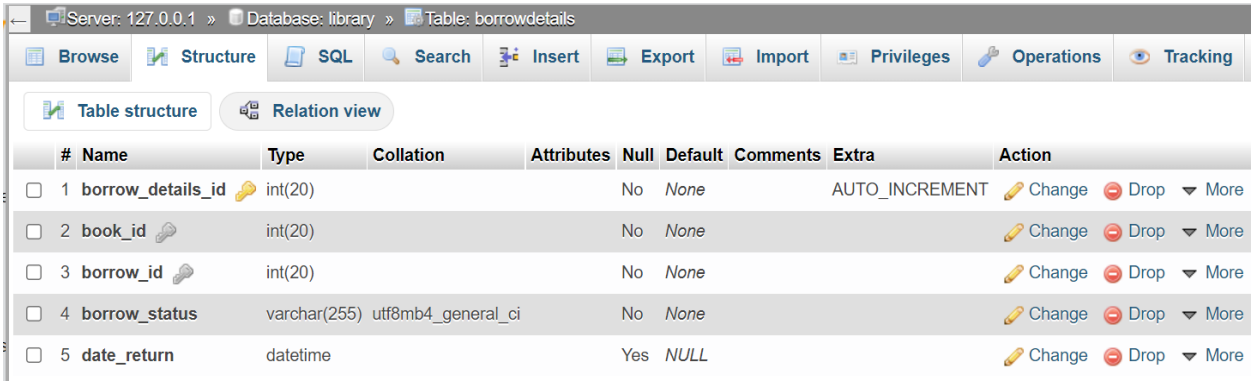
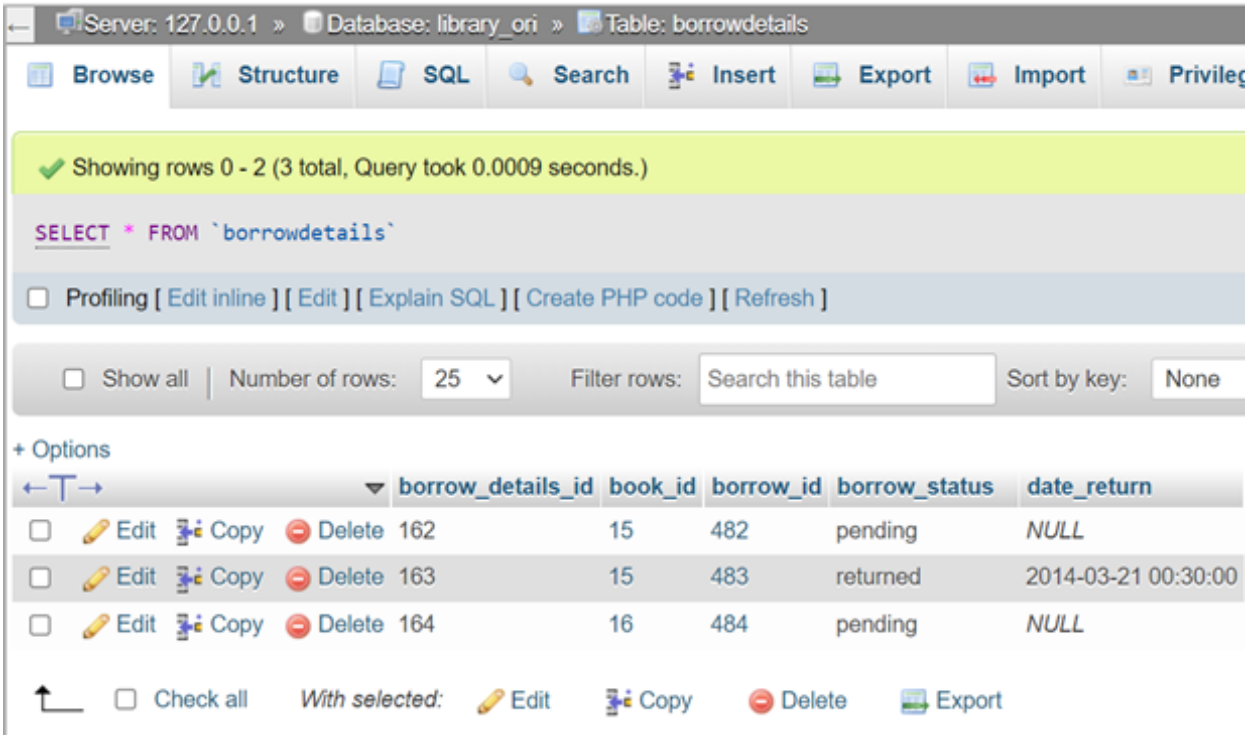
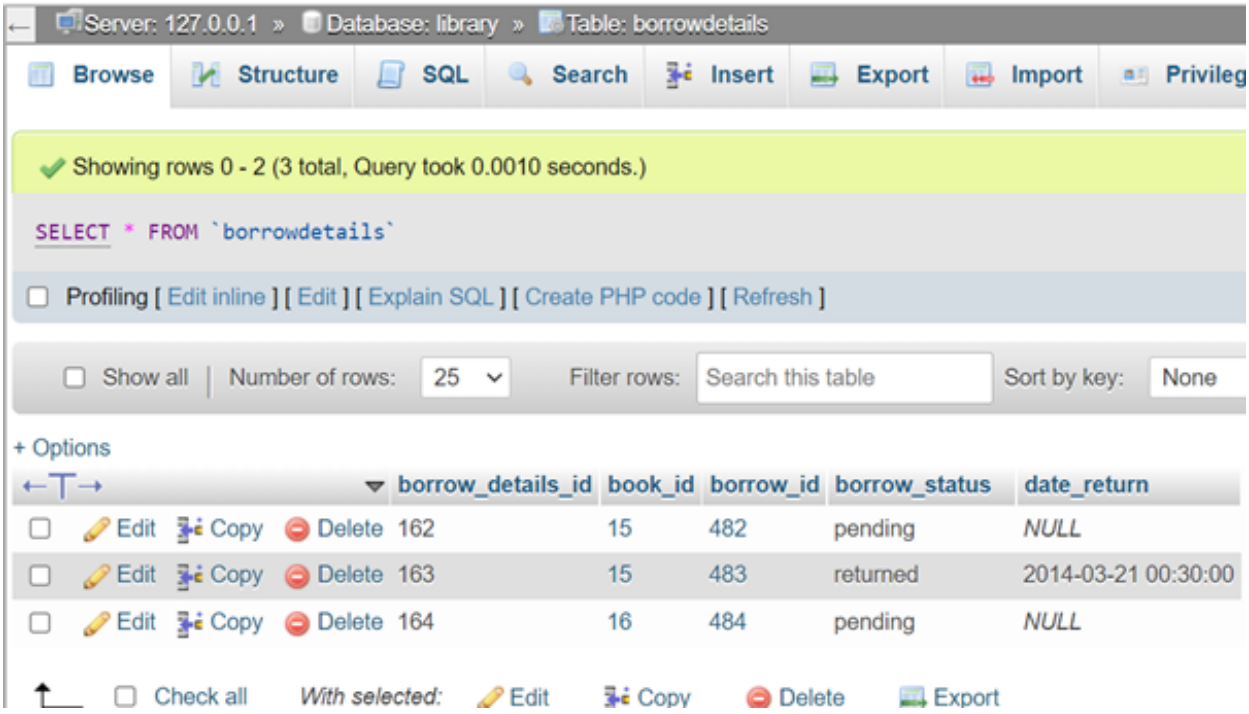


Before: Records

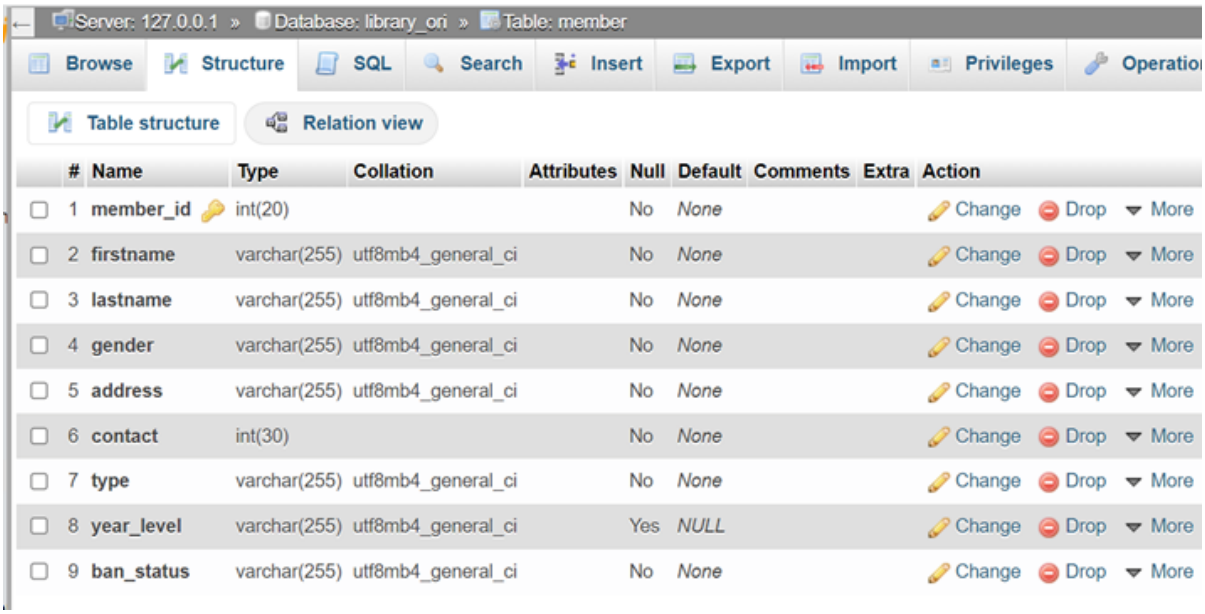


After: Records



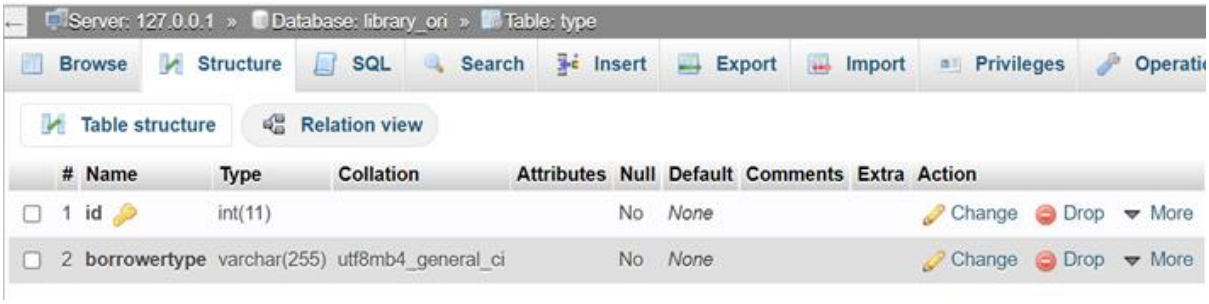
Member Table, Type Table ⇒ Member Table

Member Table Before: Structure



#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	member_id	int(20)			No	None			Change Drop More
2	firstname	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
3	lastname	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
4	gender	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
5	address	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
6	contact	int(30)			No	None			Change Drop More
7	type	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
8	year_level	varchar(255)	utf8mb4_general_ci		Yes	NULL			Change Drop More
9	ban_status	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Type Table Before: Structure



#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
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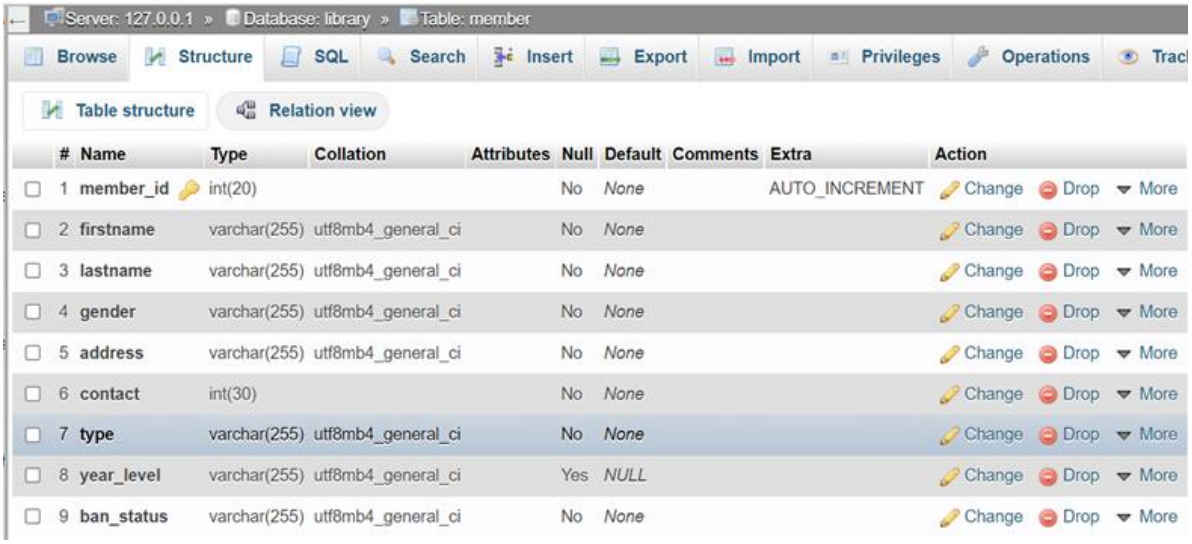
2	borrowertype	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Member Table After: Structure



#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
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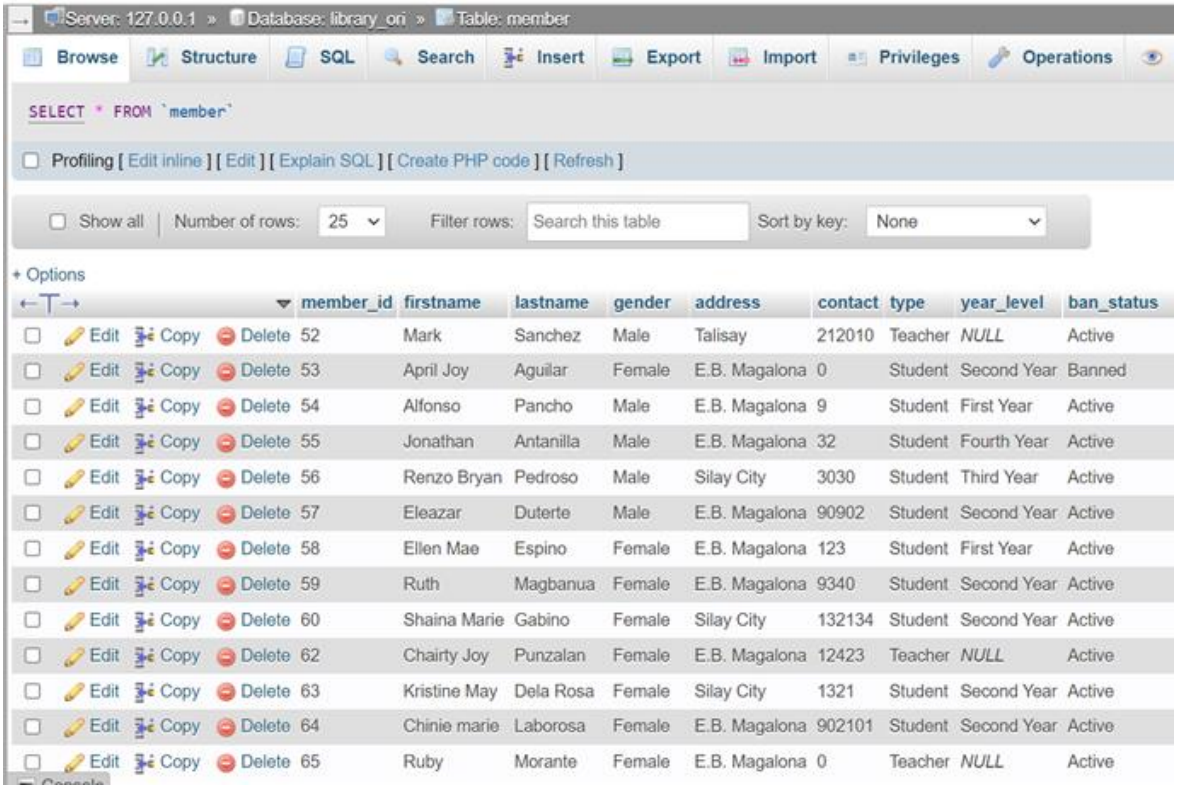
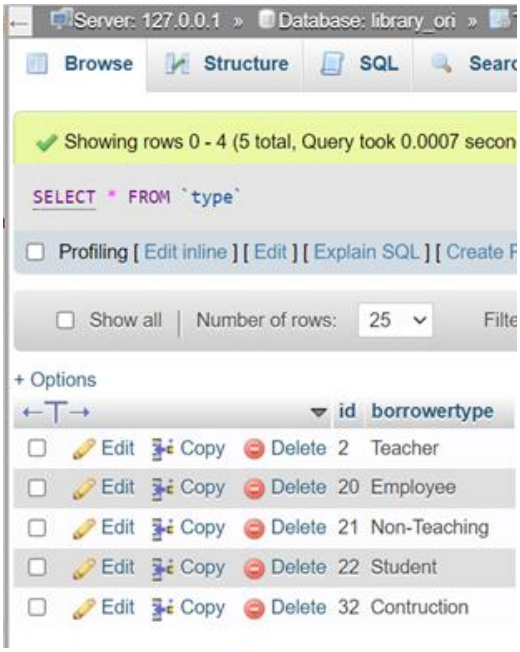
2	firstname	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
3	lastname	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
4	gender	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
5	address	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
6	contact	int(30)			No	None			Change Drop More
7	type	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More
8	year_level	varchar(255)	utf8mb4_general_ci		Yes	NULL			Change Drop More
9	ban_status	varchar(255)	utf8mb4_general_ci		No	None			Change Drop More

Member Table Before: Records



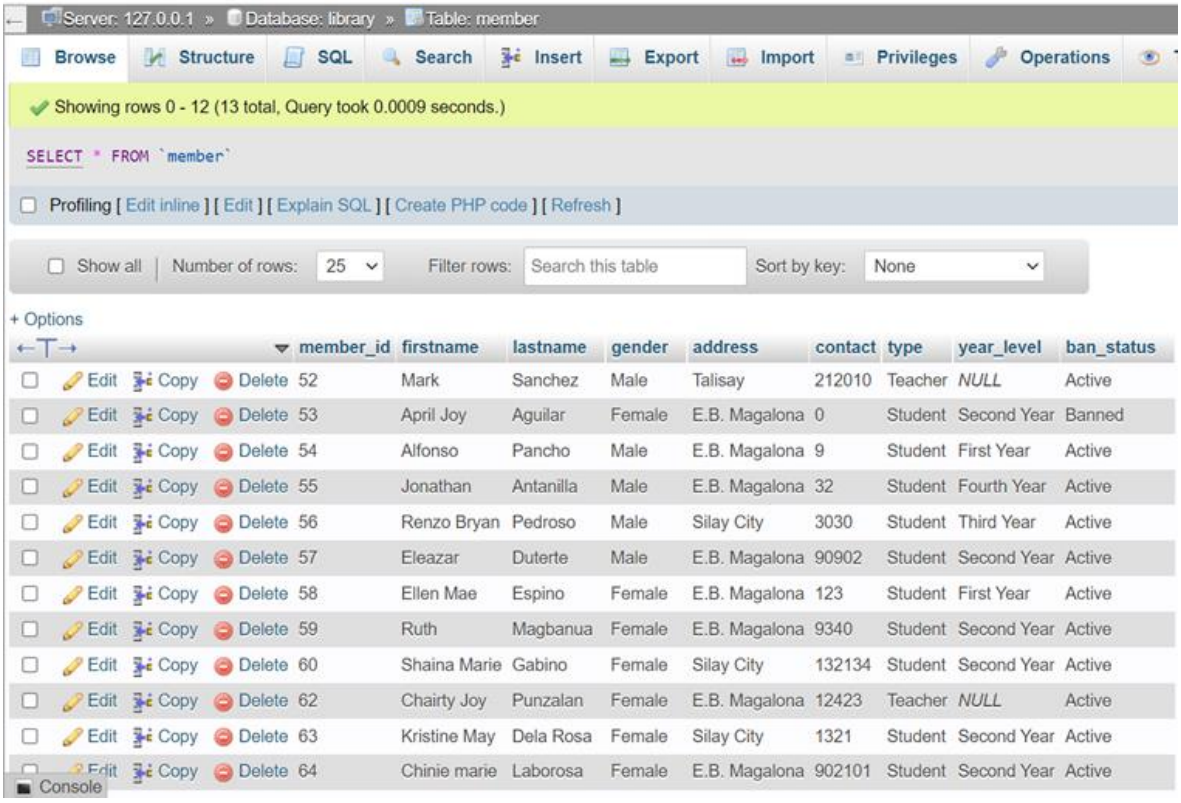
	member_id	firstname	lastname	gender	address	contact	type	year_level	ban_status
Edit Copy Delete	52	Mark	Sanchez	Male	Talisay	212010	Teacher	NULL	Active
Edit Copy Delete	53	April Joy	Aguilar	Female	E.B. Magalona	0	Student	Second Year	Banned
Edit Copy Delete	54	Alfonso	Pancho	Male	E.B. Magalona	9	Student	First Year	Active
Edit Copy Delete	55	Jonathan	Antanilla	Male	E.B. Magalona	32	Student	Fourth Year	Active
Edit Copy Delete	56	Renzo Bryan	Pedroso	Male	Silay City	3030	Student	Third Year	Active
Edit Copy Delete	57	Eleazar	Duterte	Male	E.B. Magalona	90902	Student	Second Year	Active
Edit Copy Delete	58	Ellen Mae	Espino	Female	E.B. Magalona	123	Student	First Year	Active
Edit Copy Delete	59	Ruth	Magbanua	Female	E.B. Magalona	9340	Student	Second Year	Active
Edit Copy Delete	60	Shaina Marie	Gabino	Female	Silay City	132134	Student	Second Year	Active
Edit Copy Delete	62	Chairty Joy	Punzalan	Female	E.B. Magalona	12423	Teacher	NULL	Active
Edit Copy Delete	63	Kristine May	Dela Rosa	Female	Silay City	1321	Student	Second Year	Active
Edit Copy Delete	64	Chinie marie	Laborosa	Female	E.B. Magalona	902101	Student	Second Year	Active
Edit Copy Delete	65	Ruby	Morante	Female	E.B. Magalona	0	Teacher	NULL	Active

Type Table Before: Records



	id	borrowertype
Edit Copy Delete	2	Teacher
Edit Copy Delete	20	Employee
Edit Copy Delete	21	Non-Teaching
Edit Copy Delete	22	Student
Edit Copy Delete	32	Contruction

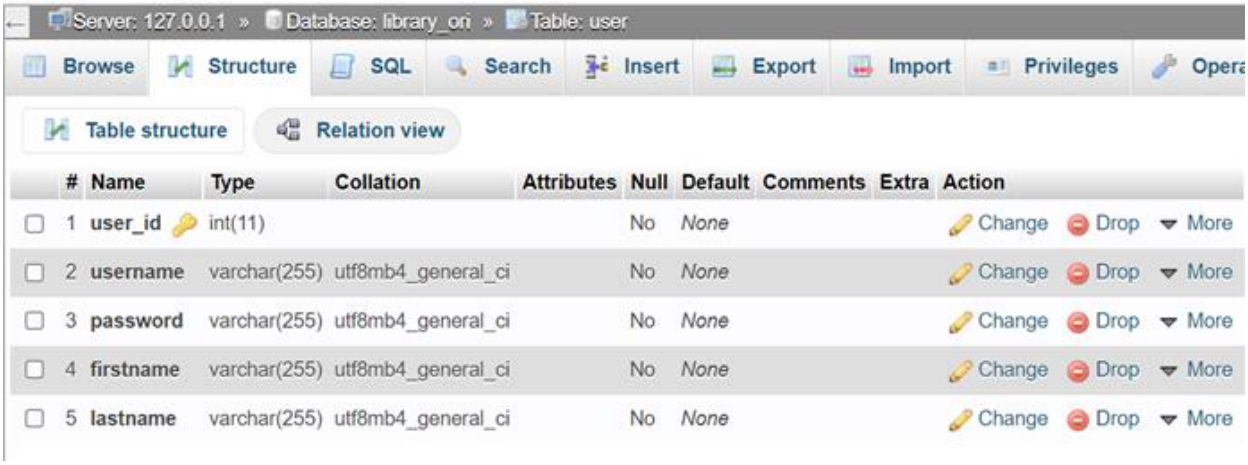
Member Table After: Records



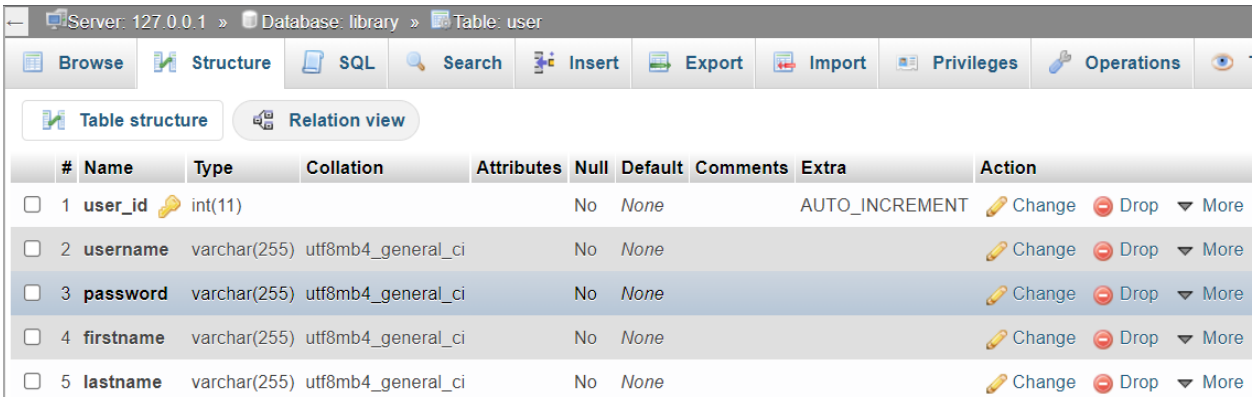
	member_id	firstname	lastname	gender	address	contact	type	year_level	ban_status
Edit Copy Delete	52	Mark	Sanchez	Male	Talisay	212010	Teacher	*NULL*	Active
Edit Copy Delete	53	April Joy	Aguilar	Female	E.B. Magalona	0	Student	Second Year	Banned
Edit Copy Delete	54	Alfonso	Pancho	Male	E.B. Magalona	9	Student	First Year	Active
Edit Copy Delete	55	Jonathan	Antanilla	Male	E.B. Magalona	32	Student	Fourth Year	Active
Edit Copy Delete	56	Renzo Bryan	Pedroso	Male	Silay City	3030	Student	Third Year	Active
Edit Copy Delete	57	Eleazar	Duterte	Male	E.B. Magalona	90902	Student	Second Year	Active
Edit Copy Delete	58	Ellen Mae	Espino	Female	E.B. Magalona	123	Student	First Year	Active
Edit Copy Delete	59	Ruth	Magbanua	Female	E.B. Magalona	9340	Student	Second Year	Active
Edit Copy Delete	60	Shaina Marie	Gabino	Female	Silay City	132134	Student	Second Year	Active
Edit Copy Delete	62	Chairty Joy	Punzalan	Female	E.B. Magalona	12423	Teacher	*NULL*	Active
Edit Copy Delete	63	Kristine May	Dela Rosa	Female	Silay City	1321	Student	Second Year	Active
Edit Copy Delete	64	Chinie marie	Laborosa	Female	E.B. Magalona	902101	Student	Second Year	Active

User Table

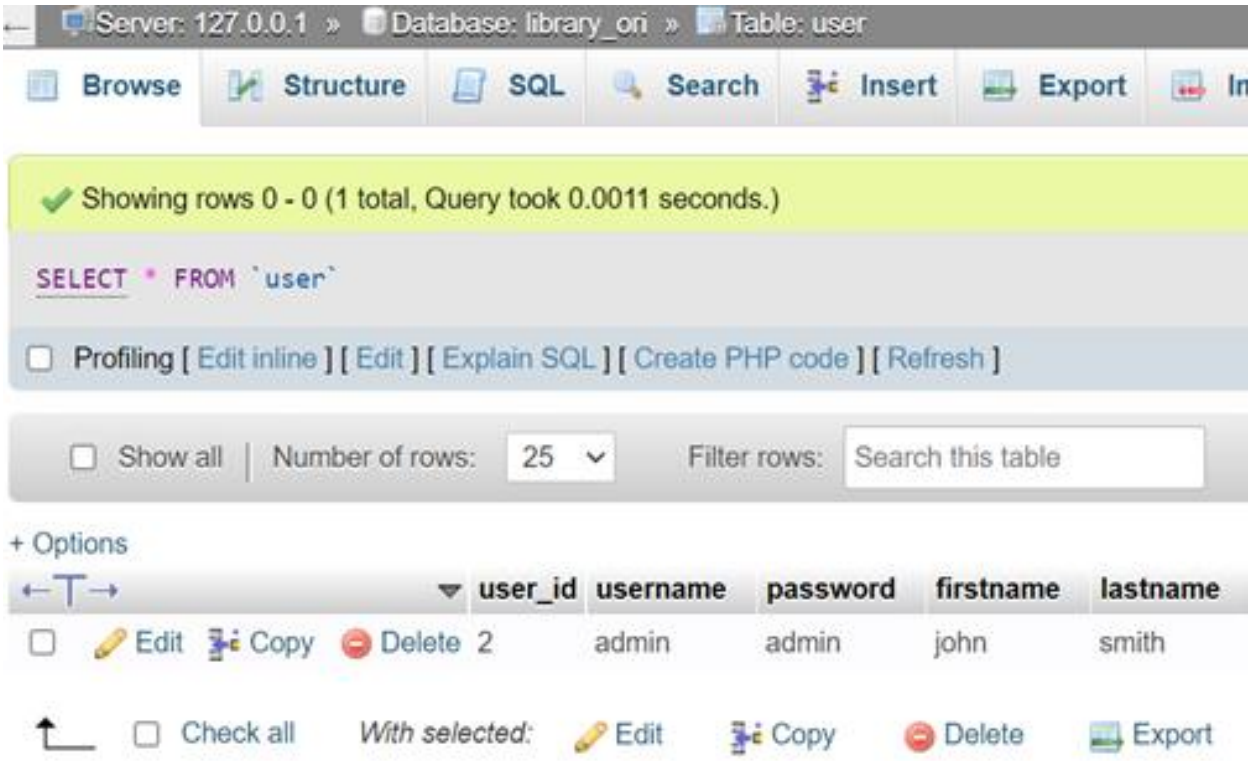
Before: Structure



After: Structure



Before: Records



After: Records

TASK C: Github Repository

Link: https://github.com/zhenyiisme/COMP1044_CW_G5