CM 1603 CW

Q1

1. MAIN ENTITIES
   - ➢ Librarian
   - ➢ Book
   - ➢ BookCopy
   - ➢ User
   - ➢ Journal
   - ➢ Article
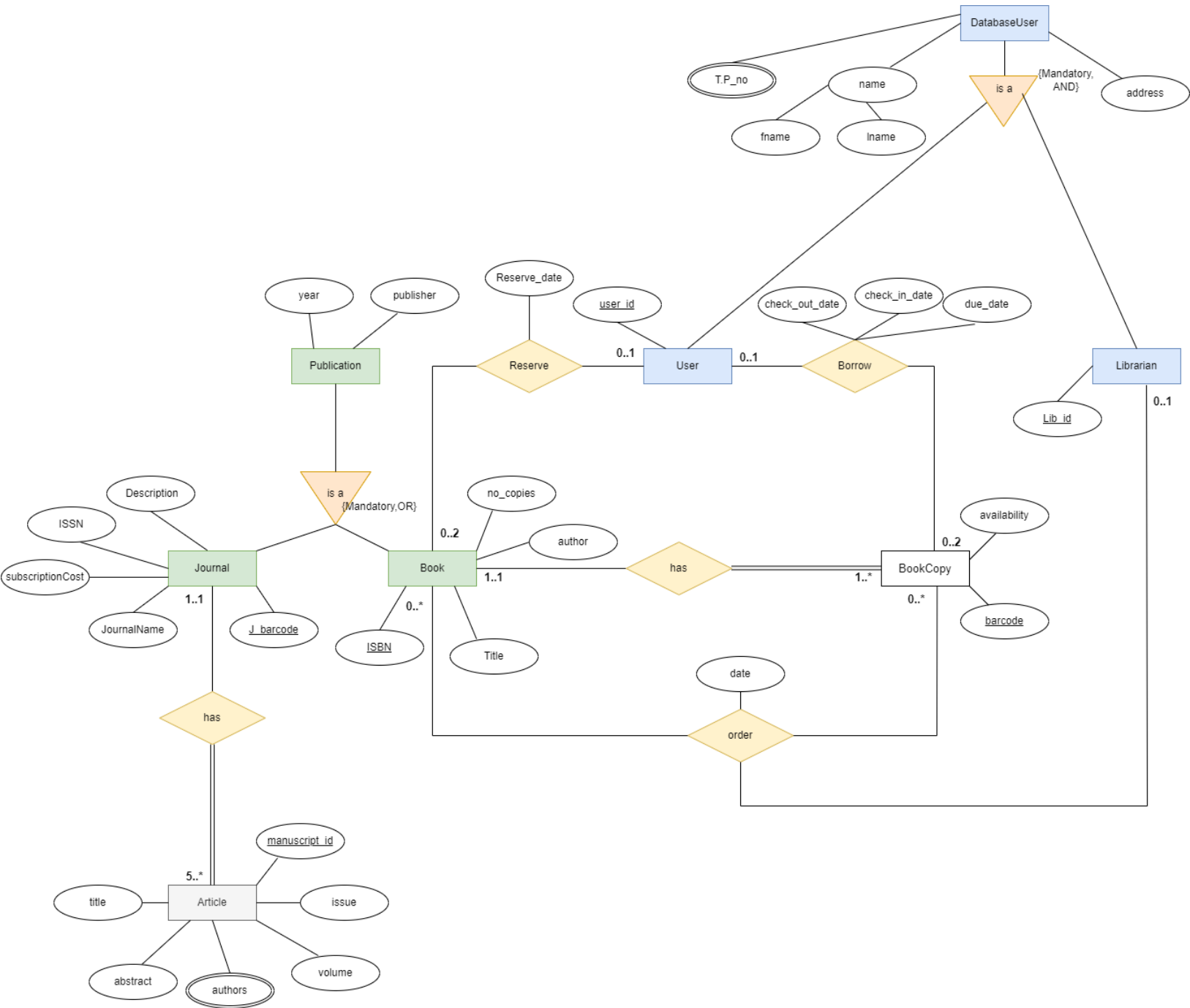
   SUPER ENTITY- Publication

   DatabaseUser

2. RELATIONSHIP BETWEEN ENTITIES
   - ➢ User reserve Book
   - ➢ User borrow BookCopy
   - ➢ Journal has Article
   - ➢ Book has BookCopy
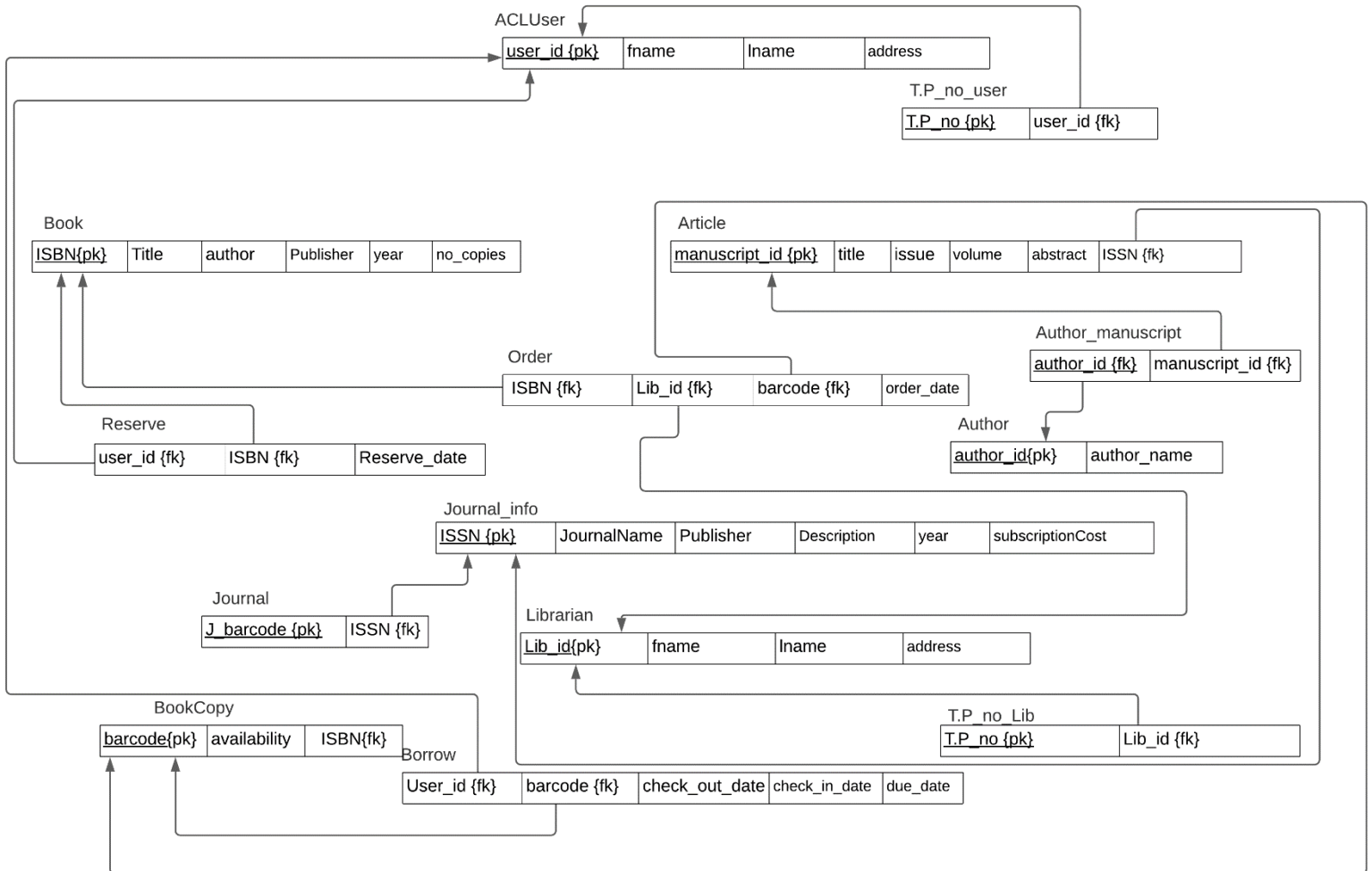   - ➢ Librarian order Book and BookCopy

3. PRIMARY KEYS OF ENTITIES
   - ➢ User pk- user_id
   - ➢ Librarian pk- Lib_id
   - ➢ Book-ISBN
   - ➢ BookCopy- barcode
   - ➢ Journal-J_barcode
   - ➢ Article-manuscript_id

DatabaseUser

T.P_no • name • fname • lname • address

is a {Mandatory, AND}

Librarian
Lib_id
0..1

Publication
year • publisher

Reserve_date

Reserve — 0..1 — **User** — 0..1 — Borrow
user_id
check_out_date • check_in_date • due_date

is a {Mandatory,OR}

Journal
ISSN • Description • subscriptionCost • JournalName • J_barcode
1..1

0..2

Book
no_copies • author • ISBN • Title
1..1   0..2   0..*

has

BookCopy
availability • barcode
0..2   1..*   0..*

order
date

has

Article
manuscript_id • title • issue • abstract • authors • volume
5..*

Q2

s

ACLUser

user_id {pk}	fname	lname	address

T.P_no_user

T.P_no {pk}	user_id {fk}

Book

ISBN{pk}	Title	author	Publisher	year	no_copies

Article

manuscript_id {pk}	title	issue	volume	abstract	ISSN {fk}

Author_manuscript

author_id {fk}	manuscript_id {fk}

Order

ISBN {fk}	Lib_id {fk}	barcode {fk}	order_date

Author

author_id{pk}	author_name

Reserve

user_id {fk}	ISBN {fk}	Reserve_date

Journal_info

ISSN {pk}	JournalName	Publisher	Description	year	subscriptionCost

Journal

J_barcode {pk}	ISSN {fk}

Librarian

Lib_id{pk}	fname	lname	address

BookCopy

barcode{pk}	availability	ISBN{fk}

T.P_no_Lib

T.P_no {pk}	Lib_id {fk}

Borrow

User_id {fk}	barcode {fk}	check_out_date	check_in_date	due_date

Assumptions that were took when drawing the ER diagram and relational schema

Journal and books have some common attributes, and it is generalized as a publication. Here, Mandatory optional is used assuming there is no other type of publication available and since one type of publication cannot be another type at ACL.

And further, librarians and users are people who involve in using the database have common attributes as well. Therefore, those entities are generalized as ACLUser.Here, mandatory and is used since librarians can borrow books. And though users can't be a librarian, a librarian can be a user.

It is assumed that one user can borrow and reserve two books the most.

It is assumed that ACL doesn't offer renewals. If renewals are considered the due date of the borrowing record of that specific user's specific book should be extended.

Also, it is assumed that one user borrows one book only once. If a user borrows again later period, then to identify a particular record of borrow table another attribute (ie. check out date) should be considered as a composite primary key along with user_id and barcode of the book.

Also, one user can reserve a particular book again at a later period. In that case, another attribute should be taken as a part of the composite primary key to identify a particular record uniquely. Here, it is assumed that one user reserves one book only once.

Here, it is assumed that one user or librarian can have more than one telephone number.

Also, it is assumed any type of journal's issue has at least 5 articles.

Also, it is assumed that an article can be written by several authors. Thus, the author attribute of the article is considered as a multivalued attribute. And different authors can have the same name. therefore, an author id is given to differentiate them.

Also, it is assumed that check-ins are made on or before the deadline and no monetary fine system is enforced assuming ACL doesn't have one.

Journal subscription is considered as library subscribing to different types of journals and that cost is taken as subscription cost. And it is assumed that journals are not available for lending and the library has only one copy for one journal issue of a volume. Therefore, copy numbers of journals are not maintained here. If there are numerous copies of journals, then they should be maintained properly.

Here, details of all subscribed journals and, all issues of those journals are maintained.

Here, different types of journals that are subscribed can be identified with the ISSN number. And all those issues are identified with an id- journal id- given by ACL.

Also, it is assumed that a new book or new copy of an existing title is purchased (ordered) and updated as a book to book entity itself and book copy to book copy entity respectively.

Here, it can be assumed that a book has at least one copy. Otherwise, even if a book is their user won't be able to borrow. Therefore, the number of copies can be assumed to have a default value of 1 if ACL purchases new books or purchased books with at least one copy.

Q3

Database creation and ACLUser table creation

Code

CREATE TABLE ACLUser

(

   user_id varchar(8) NOT NULL,

   fname varchar(25) NOT NULL,

   lname varchar(25) NOT NULL,

   address varchar (50) NOT NULL,

   PRIMARY KEY (user_id)

);

```
 1  CREATE DATABASE ACL_Library;
 2  USE ACL_Library;
 3  CREATE TABLE ACLUser
 4  (
 5      user_id varchar(8) NOT NULL,
 6      fname varchar(25) NOT NULL,
 7      lname varchar(25) NOT NULL,
 8      address varchar (50) NOT NULL,
 9      PRIMARY KEY (user_id)
10
11      |
12  );
```
Clear   Format   Get auto-saved query

output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	user_id 🔑	varchar(8)	utf8mb4_general_ci		No	*None*			🖉 Change ⊝ Drop ▽ More
☐ 2	fname	varchar(25)	utf8mb4_general_ci		No	*None*			🖉 Change ⊝ Drop ▽ More
☐ 3	lname	varchar(25)	utf8mb4_general_ci		No	*None*			🖉 Change ⊝ Drop ▽ More
☐ 4	address	varchar(50)	utf8mb4_general_ci		No	*None*			🖉 Change ⊝ Drop ▽ More

tp_no_user table creation

code

CREATE TABLE TP_no_user

(

   TP_no char(10) NOT NULL,

   user_id varchar(8) NOT NULL,

   PRIMARY KEY (TP_no),

   FOREIGN KEY (user_id) REFERENCES ACLUser(user_id)

);

```
1  CREATE TABLE TP_no_user
2  (
3      TP_no char(10) NOT NULL,
4      user_id varchar(8) NOT NULL,
5      PRIMARY KEY (TP_no),
6      FOREIGN KEY (user_id) REFERENCES ACLUser(user_id)
7
8
9  );
```

Clear   Format   Get auto-saved query

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	TP_no 🔑	char(10)	utf8mb4_general_ci		No	None			🖉 Change ⛔ Drop ▽ More
☐ 2	user_id 🔑	varchar(8)	utf8mb4_general_ci		No	None			🖉 Change ⛔ Drop ▽ More

Book table creation

Code

CREATE TABLE Book

(

   ISBN char(13) NOT NULL,

   Title varchar(50) NOT NULL,

   author varchar(50) NOT NULL,

   Publisher varchar(25) NOT NULL,

   Year_published YEAR NOT NULL,

   no_copies INTEGER NOT NULL,

   PRIMARY KEY (ISBN)

);

```
 1  CREATE TABLE Book
 2  (
 3      ISBN char(13) NOT NULL,
 4      Title varchar(50) NOT NULL,
 5      author varchar(50) NOT NULL,
 6      Publisher varchar(25) NOT NULL,
 7      Year_published YEAR NOT NULL,
 8      no_copies INTEGER NOT NULL,
 9      PRIMARY KEY (ISBN)
10
11
12  );
```

Clear   Format   Get auto-saved query

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	ISBN 🔑	char(13)	utf8mb4_general_ci		No	None			🖉 Change 🚫 Drop ▽ More
☐ 2	Title	varchar(50)	utf8mb4_general_ci		No	None			🖉 Change 🚫 Drop ▽ More
☐ 3	author	varchar(50)	utf8mb4_general_ci		No	None			🖉 Change 🚫 Drop ▽ More
☐ 4	Publisher	varchar(25)	utf8mb4_general_ci		No	None			🖉 Change 🚫 Drop ▽ More
☐ 5	Year_published	year(4)			No	None			🖉 Change 🚫 Drop ▽ More
☐ 6	no_copies	int(11)			No	None			🖉 Change 🚫 Drop ▽ More

Journal_info table creation

Code

CREATE TABLE Journal_info

(

   ISSN int(8) NOT NULL,

   JournalName varchar(25) NOT NULL,

   Publisher varchar(25) NOT NULL,

   Description varchar(250),

   year_published YEAR,

   subscriptionCost Decimal(6),

   PRIMARY KEY (ISSN)

);

```
 1  CREATE TABLE Journal_info
 2  (
 3      ISSN char(13) NOT NULL,
 4      JournalName varchar(25) NOT NULL,
 5      Publisher varchar(25) NOT NULL,
 6      Description varchar(250),
 7      year_published YEAR,
 8      subscriptionCost Decimal(6),
 9      PRIMARY KEY (ISSN)
10
11
12  );
```

Clear   Format   Get auto-saved query

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	ISSN 🔑	int(8)			No	None			✎ Change ⊖ Drop ▽ More
☐ 2	JournalName	varchar(25)	utf8mb4_general_ci		No	None			✎ Change ⊖ Drop ▽ More
☐ 3	Publisher	varchar(25)	utf8mb4_general_ci		No	None			✎ Change ⊖ Drop ▽ More
☐ 4	Description	varchar(250)	utf8mb4_general_ci		Yes	NULL			✎ Change ⊖ Drop ▽ More
☐ 5	year_published	year(4)			Yes	NULL			✎ Change ⊖ Drop ▽ More
☐ 6	subscriptionCost	decimal(6,0)			Yes	NULL			✎ Change ⊖ Drop ▽ More

Article table creation

Code

CREATE TABLE Article

(

    manuscript_id varchar(10) NOT NULL,

title varchar(50) NOT NULL,

issue INTEGER(100) NOT NULL,

volume INTEGER(100) NOT NULL,

abstract varchar(500) NOT NULL,

ISSN INTEGER(8) NOT NULL,

PRIMARY KEY(manuscript_id),

FOREIGN KEY(ISSN) REFERENCES Journal_info(ISSN)

);

```
1   CREATE TABLE Article
2   (
3       manuscript_id varchar(10) NOT NULL,
4       title varchar(50) NOT NULL,
5       issue INTEGER(100) NOT NULL,
6       volume INTEGER(100) NOT NULL,
7       abstract varchar(500) NOT NULL,
8       ISSN INTEGER(8) NOT NULL,
9       PRIMARY KEY(manuscript_id),
10      FOREIGN KEY(ISSN) REFERENCES journal_info(ISSN)
11
12
13  );
14
```

Clear   Format   Get auto-saved query

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	manuscript_id 🔑	varchar(10)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop ▽ More
☐ 2	title	varchar(50)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop ▽ More
☐ 3	issue	int(100)			No	None			🖉 Change ⊖ Drop ▽ More
☐ 4	volume	int(100)			No	None			🖉 Change ⊖ Drop ▽ More
☐ 5	abstract	varchar(500)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop ▽ More
☐ 6	ISSN 🔑	int(8)			No	None			🖉 Change ⊖ Drop ▽ More

Librarian table creation

Code

CREATE TABLE Librarian

(

   Lib_id varchar(8) NOT NULL,

   fname varchar(25) NOT NULL,

   lname varchar(25) NOT NULL,

   address varchar (50) NOT NULL,

   PRIMARY KEY (Lib_id)

);

```
 1  CREATE TABLE Librarian
 2  (
 3      Lib_id varchar(8) NOT NULL,
 4      fname varchar(25) NOT NULL,
 5      lname varchar(25) NOT NULL,
 6      address varchar (50) NOT NULL,
 7      PRIMARY KEY (Lib_id)
 8
 9
10  );
11  |
```

Clear   Format   Get auto-saved query

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	Lib_id 🔑	varchar(8)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop ▽ More
☐ 2	fname	varchar(25)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop ▽ More
☐ 3	lname	varchar(25)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop ▽ More
☐ 4	address	varchar(50)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop ▽ More

BookCopy table creation

Code

CREATE TABLE bookCopy

(

   barcode varchar(43) NOT NULL,

   ISBN char(13) NOT NULL,

   availability varchar(25) NOT NULL,

   PRIMARY KEY (barcode),

   FOREIGN KEY (ISBN) REFERENCES book(ISBN)

);

```
1  CREATE TABLE BookCopy
2  (
3      barcode varchar(43) NOT NULL,
4      ISBN char(13) NOT NULL,
5      availability varchar(25) NOT NULL,
6      PRIMARY KEY (barcode),
7      FOREIGN KEY (ISBN) REFERENCES book(ISBN)
8
9
10
11 );
12
```

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	**barcode** 🔑	varchar(43)	utf8mb4_general_ci		No	None			🖊 Change ⊖ Drop ▽ More
☐ 2	**ISBN** 🔑	char(13)	utf8mb4_general_ci		No	None			🖊 Change ⊖ Drop ▽ More
☐ 3	**availability**	varchar(25)	utf8mb4_general_ci		No	None			🖊 Change ⊖ Drop ▽ More

↥__ ☐ Check all   *With selected:*   ▦ Browse   🖊 Change   ⊖ Drop   🔑 Primary   Ⓤ Unique   🗒 Index   Ⓣ Fulltext   🔩 Ad

🖨 Print   🖼 Propose table structure ❓   ◉ Track table   ⬚ Move columns   🖊 Normalize

🔩 Add ☐ 1 column(s) [after availability ▽] Go

TP_no_lib table creation

Code

CREATE TABLE TP_no_Lib

(

   TP_no char(10) NOT NULL,

   Lib_id varchar(8) NOT NULL,

   PRIMARY KEY (TP_no),

   FOREIGN KEY (Lib_id) REFERENCES Librarian(Lib_id)

);

```
1  CREATE TABLE TP_no_Lib
2  (
3      TP_no char(10) NOT NULL,
4      Lib_id varchar(8) NOT NULL,
5      PRIMARY KEY (TP_no),
6      FOREIGN KEY (Lib_id) REFERENCES Librarian(Lib_id)
7
8
9  );
```

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	TP_no 🔑	char(10)	utf8mb4_general_ci		No	*None*			🖉 Change ⊘ Drop ▾ More
☐ 2	Lib_id 🔑	varchar(8)	utf8mb4_general_ci		No	*None*			🖉 Change ⊘ Drop ▾ More

↑ ☐ Check all   *With selected:* ▦ Browse   🖉 Change   ⊖ Drop   🔑 Primary   Ⓤ Unique   Index   T F

Author table creation

Code

CREATE TABLE Author

(

   author_id varchar(8) NOT NULL,

   author_name varchar(25) NOT NULL,

   PRIMARY KEY (author_id)

);

```
1  CREATE TABLE Author
2  (
3      author_id varchar(8) NOT NULL,
4      author_name varchar(25) NOT NULL,
5      PRIMARY KEY (author_id)
6
7
8  );
```

Clear   Format   Get auto-saved query

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	author_id 🔑	varchar(8)	utf8mb4_general_ci		No	*None*			🖉 Change ⊘ Drop ▾ More
☐ 2	author_name	varchar(25)	utf8mb4_general_ci		No	*None*			🖉 Change ⊘ Drop ▾ More

↑ ☐ Check all   *With selected:* ▦ Browse   🖉 Change   ⊖ Drop   🔑 Primary   Ⓤ Unique   Index   T Fulltex

Journal table creation

Code

CREATE TABLE Journal

(

  J_barcode varchar(43) NOT NULL,

  ISSN int(8) NOT NULL,

  PRIMARY KEY (J_barcode),

  FOREIGN KEY (ISSN) REFERENCES Journal_info(ISSN)

);

Run SQL query/queries on database acl_library: ⓘ

```
1  CREATE TABLE Journal
2  (
3      J_barcode varchar(43) NOT NULL,
4      ISSN int(8) NOT NULL,
5      PRIMARY KEY (J_barcode),
6      FOREIGN KEY (ISSN) REFERENCES Journal_info(ISSN)
7
8
9  );
```

Clear   Format   Get auto-saved query

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	J_barcode 🔑	varchar(43)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop ▼ More
☐ 2	ISBN 🔑	char(13)	utf8mb4_general_ci		No	None			🖉 Change ⊖ Drop ▼ More

↑ ☐ Check all   *With selected:*   ▦ Browse   🖉 Change   ⊖ Drop   🔑 Primary   U Unique   🖼 Index   T Fulltext

Author_manuscript table creation

Code

CREATE TABLE Author_manuscript

(

   author_id varchar(8) NOT NULL,

   manuscript_id varchar(10) NOT NULL,

   FOREIGN KEY (author_id) REFERENCES Author(author_id),

   FOREIGN KEY (manuscript_id) REFERENCES Article(manuscript_id),

   CONSTRAINT PK_Author_manuscript PRIMARY KEY (author_id,manuscript_id)

);

```
1  CREATE TABLE Author_manuscript
2  (
3      author_id varchar(8) NOT NULL,
4      manuscript_id varchar(10) NOT NULL,
5      FOREIGN KEY (author_id) REFERENCES Author(author_id),
6      FOREIGN KEY (manuscript_id) REFERENCES Article(manuscript_id),
7      CONSTRAINT PK_Author_manuscript PRIMARY KEY (author_id,manuscript_id)
8
9  );
10
```

[Clear] [Format] [Get auto-saved query]

☐ Bind parameters ⓘ

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	author_id 🔑	varchar(8)	utf8mb4_general_ci		No	*None*			🖊 Change ⛔ Drop ▽ More
2	manuscript_id 🔑🔑	varchar(10)	utf8mb4_general_ci		No	*None*			🖊 Change ⛔ Drop ▽ More

↑ ☐ Check all   *With selected:*   ▦ Browse   🖊 Change   ⛔ Drop   🔑 Primary   Ⓤ Unique   🗔 Index   T Fulltext

🖨 Print   🗗 Propose table structure ❓   👁 Track table   🗐 Move columns   🖊 Normalize

Order_ table creation

Code

CREATE TABLE Order_

(

   ISBN char(13) NOT NULL,

   Lib_id varchar(8) NOT NULL,

   barcode varchar(43) ,

   order_date date NOT NULL,

   FOREIGN KEY (ISBN) REFERENCES Book(ISBN),

   FOREIGN KEY (Lib_id) REFERENCES Librarian(Lib_id),

   FOREIGN KEY (barcode) REFERENCES BookCopy(barcode),

   CONSTRAINT PK_Order_ PRIMARY KEY (ISBN,Lib_id,barcode)

);

Run SQL query/queries on database acl_library: ⓘ

```
 1  CREATE TABLE Order_
 2  (
 3      ISBN char(13) NOT NULL,
 4      Lib_id varchar(8) NOT NULL,
 5      barcode  varchar(43) ,
 6      order_date date NOT NULL,
 7      FOREIGN KEY (ISBN) REFERENCES Book(ISBN),
 8      FOREIGN KEY (Lib_id) REFERENCES Librarian(Lib_id),
 9      FOREIGN KEY (barcode) REFERENCES BookCopy(barcode),
10      CONSTRAINT PK_Order_ PRIMARY KEY (ISBN,Lib_id,barcode)
11
12
13  );
```

[Clear] [Format] [Get auto-saved query]

☐ Bind parameters ⓘ

Bookmark this SQL query: [   ]

Output

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action		
☐	1	ISBN 🔑	char(13)	utf8mb4_general_ci		No	None			🖉 Change	⊖ Drop	▽ More
☐	2	Lib_id 🔑🔑	varchar(8)	utf8mb4_general_ci		No	None			🖉 Change	⊖ Drop	▽ More
☐	3	barcode 🔑🔑	varchar(43)	utf8mb4_general_ci		No	None			🖉 Change	⊖ Drop	▽ More
☐	4	order_date	date			No	None			🖉 Change	⊖ Drop	▽ More

↑__ ☐ Check all   *With selected:*   ▦ Browse   🖉 Change   ⊖ Drop   🔑 Primary   ⓤ Unique   ⊞ Index   ⊤ Fulltex

Reserve table creation

Code

CREATE TABLE Reserve

(

    user_id varchar(8) NOT NULL,

    ISBN char(13) NOT NULL,

    Reserve_date Date NOT NULL,

    FOREIGN KEY (user_id) REFERENCES ACLUser(user_id),

    FOREIGN KEY (ISBN) REFERENCES Book(ISBN),

    CONSTRAINT PK_Reserve PRIMARY KEY (user_id,ISBN)

);

```
 1  CREATE TABLE Reserve
 2  (
 3      user_id varchar(8) NOT NULL,
 4      ISBN char(13) NOT NULL,
 5      Reserve_date Date NOT NULL,
 6      FOREIGN KEY (user_id) REFERENCES ACLUser(user_id),
 7      FOREIGN KEY (ISBN) REFERENCES Book(ISBN),
 8      CONSTRAINT PK_Reserve PRIMARY KEY (user_id,ISBN)
 9
10
11
12  );
```

Clear   Format   Get auto-saved query

☐ Bind parameters ⊙

Output

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action		
☐	1	user_id 🔑	varchar(8)	utf8mb4_general_ci		No	None			🖉 Change	⊖ Drop	▽ More
☐	2	ISBN 🔑🔑	char(13)	utf8mb4_general_ci		No	None			🖉 Change	⊖ Drop	▽ More
☐	3	Reserve_date	date			No	None			🖉 Change	⊖ Drop	▽ More

↑__ ☐ Check all   With selected: ▦ Browse   🖉 Change   ⊖ Drop   🔑 Primary   Ⓤ Unique   Index   T Fulltext

Borrow table creation

Code

CREATE TABLE Borrow

(

   user_id varchar(8) NOT NULL,

   barcode varchar(43) NOT NULL,

   check_out_date date NOT NULL,

   check_in_date date ,

   due_date date NOT NULL,

   FOREIGN KEY (user_id) REFERENCES ACLUser(user_id),

   FOREIGN KEY (barcode) REFERENCES BookCopy(barcode),

   CONSTRAINT PK_Borrow PRIMARY KEY (user_id,barcode)

);

Run SQL query/queries on database acl_library: ⊙

```
 1  CREATE TABLE Borrow
 2  (
 3      user_id varchar(8) NOT NULL,
 4      barcode  varchar(43) NOT NULL,
 5      check_out_date date NOT NULL,
 6      check_in_date date ,
 7      due_date date NOT NULL,
 8      FOREIGN KEY (user_id) REFERENCES ACLUser(user_id),
 9      FOREIGN KEY (barcode) REFERENCES BookCopy(barcode),
10      CONSTRAINT PK_Borrow PRIMARY KEY (user_id,barcode)
11
12
13
14  );
```

Output

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐ 1	user_id 🔑	varchar(8)	utf8mb4_general_ci		No	None			🖊 Change ⊘ Drop ▾ More
☐ 2	barcode 🔑🔑	varchar(43)	utf8mb4_general_ci		No	None			🖊 Change ⊘ Drop ▾ More
☐ 3	check_out_date	date			No	None			🖊 Change ⊘ Drop ▾ More
☐ 4	check_in_date	date			No	None			🖊 Change ⊘ Drop ▾ More
☐ 5	due_date	date			No	None			🖊 Change ⊘ Drop ▾ More

↑ ☐ Check all   *With selected:*   ▦ Browse   🖊 Change   ⊘ Drop   🔑 Primary   U Unique   📑 Index   T Fulltext

🖶 Print   🖳 Propose table structure ⓘ   👁 Track table   ⬅ Move columns   🪄 Normalize

Q4

INSERT VALUES

ACLUser table

Code

INSERT INTO ACLUser VALUES

('20201001','Sam','Anderson','No.20,Lily Avenue,Col-06'),

('20201002','Robert','Gorden','No.22,Maya Avenue,Col-07'),

('20201003','Niall','Horan','No.45,School lane,Col-06'),

('20201004','Harry','Styles','No.80,Church road,Col-11'),

('20201005','Amal','Perera','No.80,Church road,Col-11');

```
1  INSERT INTO ACLUser VALUES
2  ('20201001','Sam','Anderson','No.20,Lily Avenue,Col-06'),
3  ('20201002','Robert','Gorden','No.22,Maya Avenue,Col-07'),
4  ('20201003','Niall','Horan','No.45,School lane,Col-06'),
5  ('20201004','Harry','Styles','No.80,Church road,Col-11'),
6  ('20201005','Amal','Perera','No.80,Church road,Col-11');
7
8
```

Output

			user_id	fname	lname	address
☐	🖊 Edit	⁝ Copy ⊝ Delete	20201001	Sam	Anderson	No.20,Lily Avenue,Col-06
☐	🖊 Edit	⁝ Copy ⊝ Delete	20201002	Robert	Gorden	No.22,Maya Avenue,Col-07
☐	🖊 Edit	⁝ Copy ⊝ Delete	20201003	Niall	Horan	No.45,School lane,Col-06
☐	🖊 Edit	⁝ Copy ⊝ Delete	20201004	Harry	Styles	No.80,Church road,Col-11
☐	🖊 Edit	⁝ Copy ⊝ Delete	20201005	Amal	Perera	No.80,Church road,Col-11

↑ ☐ Check all   *With selected:* 🖊 Edit   ⁝ Copy   ⊝ Delete   🖼 Export

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

Journal_info table

Code

INSERT INTO journal_info VALUES

(73520148,'The Wisdom','Wisdom Publishers','Award winning magazine in year 2001',2004,25000),

(73520147,'E&T','IET','Engineering and technology based magazine',2012,5000),

(73520146,'IEEE','IEEE pub','engineering related journal',2015,10000),

(73520145,'ACM','ACM pub', 'scientific journal',2010,5000),

(73520148,'Science Direct','science publishers','Research journal',2005,4500);

```
 8
 9  INSERT INTO journal_info VALUES
10  (73520148,'The Wisdom','Wisdom Publishers','Award winning magazine in year 2001',2004,25000),
11  (73520147,'E&T','IET','Engineering and technology based magazine',2012,5000),
12  (73520146,'IEEE','IEEE pub','engineering related journal',2015,10000),
13  (73520145,'ACM','ACM pub', 'scientific journal',2010,5000),
14  (73520148,'Science Direct','science publishers','Research journal',2005,4500);
15
16
```

Output

			ISSN	JournalName	Publisher	Description	year_published	subscriptionCost
☐	🖊 Edit	⁝ Copy ⊝ Delete	73520144	Science Direct	science publishers	Research journal	2005	4500
☐	🖊 Edit	⁝ Copy ⊝ Delete	73520145	ACM	ACM pub	scientific journal	2010	5000
☐	🖊 Edit	⁝ Copy ⊝ Delete	73520146	IEEE	IEEE pub	engineering related journal	2015	10000
☐	🖊 Edit	⁝ Copy ⊝ Delete	73520147	E&T	IET	Engineering and technology based magazine	2012	5000
☐	🖊 Edit	⁝ Copy ⊝ Delete	73520148	The Wisdom	Wisdom Publishers	Award winning magazine in year 2001	2004	25000

↑ ☐ Check all   *With selected:* 🖊 Edit   ⁝ Copy   ⊝ Delete   🖼 Export

article table

code

INSERT INTO article VALUES

('1549648725','The Ultimate Productivity Hack is saying no',5,5,'productivity tip for everyone',73520148),

('1549648724', 'Productivity tips',5,6,'productivity tip for everyone part 2',73520147),

('1549648723','Benefits of Journaling',5,5,'why you should start journaling',73520146),

('1549648722','Why you should think more',4,3,'magic of thinking big',73520145),

VALUES('1549648721','Hackathons',5,5,'why you should do hackathons.',73520148);

```
17
18  INSERT INTO article VALUES
19  ('1549648725','The Ultimate Productivity Hack is saying no',5,5,'productivity tip for everyone',73520148),
20  ('1549648724', 'Productivity tips',5,6,'productivity tip for everyone part 2',73520147),
21  ('1549648723','Benefits of Journaling',5,5,'why you should start journaling',73520146),
22  ('1549648722','Why you should think more',4,3,'magic of thinking big',73520145),
23  ('1549648721','Hackathons',5,5,'why you should do hackathons.',73520148);
24
25
```

Output

+ Options

	manuscript_id	title	issue	volume	abstract	ISSN
☐ 🖊 Edit ⧉ Copy ⊖ Delete	1549648721	Hackathons	5	5	why you should do hackathons.	73520148
☐ 🖊 Edit ⧉ Copy ⊖ Delete	1549648722	Why you should think more	4	3	magic of thinking big	73520145
☐ 🖊 Edit ⧉ Copy ⊖ Delete	1549648723	Benefits of Journaling	5	5	why you should start journaling	73520146
☐ 🖊 Edit ⧉ Copy ⊖ Delete	1549648724	Productivity tips	5	6	productivity tip for everyone part 2	73520147
☐ 🖊 Edit ⧉ Copy ⊖ Delete	1549648725	The Ultimate Productivity Hack is saying no	5	5	productivity tip for everyone	73520148

↑ ☐ Check all With selected: 🖊 Edit ⧉ Copy ⊖ Delete 🖼 Export

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

Book table

Code

INSERT INTO book VALUES

('ASC148765492P','Magic of Thinking Big','James Bond','JS Pub',2000,5),

('EDK4572049PE7', 'Courage to be disliked','Ichio Kaku','MS pub',2000,4),

('SKLE784596145','Steve Jobs','Luis Thompson','DS pub',2005,4),

('DEH75831467LI','Mother Teresa','John Lee','JS Pub',2006,2),

('AREV45832075L','Brida','Paulo Coelho','MS pub',2012,2);

```
26
27  INSERT INTO book VALUES
28  ('ASC148765492P','Magic of Thinking Big','James Bond','JS Pub',2000,5),
29  ('EDK4572049PE7', 'Courage to be disliked','Ichio Kaku','MS pub',2000,4),
30  ('SKLE784596145','Steve Jobs','Luis Thompson','DS pub',2005,4),
31  ('DEH75831467LI','Mother Teresa','John Lee','JS Pub',2006,2),
32  ('AREV45832075L','Brida','Paulo Coelho','MS pub',2012,2);
33
34
```

Output

+ Options

		ISBN	Title	author	Publisher	Year_published	no_copies
☐	🖉 Edit 📋 Copy ⊖ Delete	AREV45832075L	Brida	Paulo Coelho	MS pub	2012	2
☐	🖉 Edit 📋 Copy ⊖ Delete	ASC148765492P	Magic of Thinking Big	James Bond	JS Pub	2000	5
☐	🖉 Edit 📋 Copy ⊖ Delete	DEH75831467LI	Mother Teresa	John Lee	JS Pub	2006	2
☐	🖉 Edit 📋 Copy ⊖ Delete	EDK4572049PE7	Courage to be disliked	Ichio Kaku	MS pub	2000	4
☐	🖉 Edit 📋 Copy ⊖ Delete	SKLE784596145	Steve Jobs	Luis Thompson	DS pub	2005	4

↑⌐ ☐ Check all   With selected: 🖉 Edit   📋 Copy   ⊖ Delete   🖼 Export

BookCopy table

Code

INSERT INTO bookcopy (barcode,availability,ISBN)

VALUES

('1548V78527894','available','AREV45832075L'),

('SA789IO785214','not available','ASC148765492P'),

('SKA4727472879','available','DEH75831467LI'),

('7HJ85478O9648','not available','EDK4572049PE7'),

('QT45876BL48612','available','SKLE784596145');

```
12
13  INSERT INTO bookcopy (barcode,availability,ISBN)
14  VALUES
15  ('1548V78527894','available','AREV45832075'),
16  ('SA789IO785214','not available','ASC148765492P'),
17  ('SKA4727472879','available','DEH75831467LI'),
18  ('7HJ8547809648','not available','EDK4572049PE7'),
19  ('QT45876BL48612','available','SKLE784596145');
20
```

Clear   Format   Get auto-saved query

) Bind parameters ❓

Output

+ Options

←T→					barcode	availability
☐	🖉 Edit	∃፥ Copy	⊖ Delete		1548V78527894	available
☐	🖉 Edit	∃፥ Copy	⊖ Delete		7HJ85478O9648	not available
☐	🖉 Edit	∃፥ Copy	⊖ Delete		QT45876BL48612	available
☐	🖉 Edit	∃፥ Copy	⊖ Delete		SA789IO785214	not available
☐	🖉 Edit	∃፥ Copy	⊖ Delete		SKA4727472879	available

↑ ☐ Check all   With selected: 🖉 Edit   ∃፥ Copy   ⊖ Delete   🖳 Export

Author table

Code

INSERT INTO author VALUES

('1001','James Henry'),

('1002','Oscar Wilde'),

('1003','Roald Dhal'),

('1004','Raymond Chang'),

('1005','Jack Welch');

```
44
45  INSERT INTO author VALUES
46  ('1001','James Henry'),
47  ('1002','Oscar Wilde'),
48  ('1003','Roald Dhal'),
49  ('1004','Raymond Chang'),
50  ('1005','Jack Welch');
51
52
```

Output

+ Options

		author_id	author_name
☐	🖉 Edit ╬ Copy ⊘ Delete	1001	James Henry
☐	🖉 Edit ╬ Copy ⊘ Delete	1002	Oscar Wilde
☐	🖉 Edit ╬ Copy ⊘ Delete	1003	Roald Dhal
☐	🖉 Edit ╬ Copy ⊘ Delete	1004	Raymond Chang
☐	🖉 Edit ╬ Copy ⊘ Delete	1005	Jack Welch

↰ ☐ Check all   With selected: 🖉 Edit   ╬ Copy   ⊘ Delete   🖼 Export

Author_manuscript table

Code

INSERT INTO author_manuscript VALUES

('1001','1549648725'),

('1002','1549648723'),

('1003','1549648724'),

('1004','1549648721'),

('1005','1549648722');

```
53
54  INSERT INTO author_manuscript VALUES
55  ('1001','1549648725'),
56  ('1002','1549648723'),
57  ('1003','1549648724'),
58  ('1004','1549648721'),
59  ('1005','1549648722');
60
```

Output

Options

	author_id	manuscript_id
☐ 🖉 Edit ⊞ Copy ⊖ Delete	1001	1549648725
☐ 🖉 Edit ⊞ Copy ⊖ Delete	1002	1549648723
☐ 🖉 Edit ⊞ Copy ⊖ Delete	1003	1549648724
☐ 🖉 Edit ⊞ Copy ⊖ Delete	1004	1549648721
☐ 🖉 Edit ⊞ Copy ⊖ Delete	1005	1549648722

↰ ☐ Check all   With selected: 🖉 Edit   ⊞ Copy   ⊖ Delete   🖩 Export

Librarian table

Code

INSERT INTO Librarian VALUES

('L0201001','Carl','Anderson','No.20,Lily Avenue,Col-06'),

('L0201002','Peter','Parker','No.22,Maya Avenue,Col-07'),

('L0201003','Mary','William','No.45,School lane,Col-06'),

('L0201004','Chris','Dave','No.80,Church road,Col-11'),

('L0201005','Ann','Fernando','No.80,Church road,Col-11');

```
78
79  INSERT INTO Librarian VALUES
80  ('L0201001','Carl','Anderson','No.20,Lily Avenue,Col-06'),
81  ('L0201002','Peter','Parker','No.22,Maya Avenue,Col-07'),
82  ('L0201003','Mary','William','No.45,School lane,Col-06'),
83  ('L0201004','Chris','Dave','No.80,Church road,Col-11'),
84  ('L0201005','Ann','Fernando','No.80,Church road,Col-11');
85
86
```

Output

· Options

			Lib_id	fname	lname	address
☐	🖉 Edit	⌗ Copy ⊖ Delete	L0201001	Carl	Anderson	No.20,Lily Avenue,Col-06
☐	🖉 Edit	⌗ Copy ⊖ Delete	L0201002	Peter	Parker	No.22,Maya Avenue,Col-07
☐	🖉 Edit	⌗ Copy ⊖ Delete	L0201003	Mary	William	No.45,School lane,Col-06
☐	🖉 Edit	⌗ Copy ⊖ Delete	L0201004	Chris	Dave	No.80,Church road,Col-11
☐	🖉 Edit	⌗ Copy ⊖ Delete	L0201005	Lucas	Cooper	No.80,Church road,Col-11

↰ ☐ Check all   *With selected:* 🖉 Edit   ⌗ Copy   ⊖ Delete   🖳 Export

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

tp_no_user

code

INSERT INTO tp_no_user VALUES

('0785549872','20201001'),

('0766482751','20201002'),

('0777004587','20201003'),

('0766782482','20201004'),

('0777555400','20201005');

```
61
62  INSERT INTO tp_no_user VALUES
63  ('0785549872','20201001'),
64  ('0766482751','20201002'),
65  ('0777004587','20201003'),
66  ('0766782482','20201004'),
67  ('0777555400','20201005');
68
```

Output

←T→				TP_no	user_id
☐	🖉 Edit	⧉ Copy	⊖ Delete	0785549872	20201001
☐	🖉 Edit	⧉ Copy	⊖ Delete	0766482751	20201002
☐	🖉 Edit	⧉ Copy	⊖ Delete	0777004587	20201003
☐	🖉 Edit	⧉ Copy	⊖ Delete	0766782482	20201004
☐	🖉 Edit	⧉ Copy	⊖ Delete	0777555400	20201005

↑ ☐ Check all   With selected: 🖉 Edit   ⧉ Copy   ⊖ Delete   📰 Export

tp_no_Lib

code

INSERT INTO tp_no_Lib VALUES

('0785789421','L0201001'),

('0766451548','L0201002'),

('0772141978','L0201003'),

('0766782428','L0201004'),

('0777555405','L0201005');

```
 95
 96  INSERT INTO tp_no_Lib VALUES
 97  ('0785789421','L0201001'),
 98  ('0766451548','L0201002'),
 99  ('0772141978','L0201003'),
100  ('0766782428','L0201004'),
101  ('0777555405','L0201005');
102
103
```

Output

Borrow table

Code

INSERT INTO borrow (user_id,barcode,check_out_date,check_in_date,due_date)

VALUES

('20201001','1548V78527894','2020-11-22','2020-12-07','2020-12-22'),

('20201002','7HJ85478O9648','2021-12-08','2021-12-11', '2021-12-22'),

('20201003','QT45876BL48612','2021-11-22','2021-12-06','2021-12-07'),

('20201004','SA789IO785214','2020-12-04','2020-12-06', '2020-12-18'),

('20201005','SKA4727472879','2020-12-08','2020-12-20', '2020-12-22');

```
1  INSERT INTO borrow VALUES
2  ('20201001','1548V78527894','2020-11-22','2020-12-07','2020-12-22'),
3  ('20201002','7HJ8547809648','2021-12-08','2021-12-11', '2021-12-22'),
4  ('20201003','QT45876BL48612','2021-11-22','2021-12-06','2021-12-07'),
5  ('20201004','SA789IO785214','2020-12-04','2020-12-06', '2020-12-18'),
6  ('20201005','SKA4727472879','2020-12-08','2020-12-20', '2020-12-22');
```

Output

			user_id	barcode	check_out_date	check_in_date	due_date
☐	Edit Copy Delete		20201001	1548V78527894	2020-11-22	2020-12-07	2020-12-22
☐	Edit Copy Delete		20201002	1548V78527894	2021-12-08	2020-12-11	2020-12-22
☐	Edit Copy Delete		20201003	QT45876BL48612	2021-11-22	2021-12-06	2021-12-07
☐	Edit Copy Delete		20201004	SA789IO785214	2020-12-04	2020-12-06	2020-12-18
☐	Edit Copy Delete		20201005	SKA4727472879	2020-12-08	2020-12-20	2020-12-22

↰ ☐ Check all   *With selected:*   ✏ Edit   Copy   ⊖ Delete   Export

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

Reserve table

Code

INSERT INTO reserve (user_id,ISBN,Reserve_date)

VALUES

('20201001','AREV45832075L','2020-11-22'),

('20201002','ASC148765492P','2021-12-08'),

('20201003','DEH75831467LI','2021-11-22'),

('20201004','EDK4572049PE7','2020-12-04'),

('20201005','SKLE784596145','2020-12-08');

Run SQL query/queries on database acl_library:

```
1  INSERT INTO reserve (user_id,ISBN,Reserve_date)
2  VALUES
3  ('20201001','AREV45832075L','2020-11-22'),
4  ('20201002','ASC148765492P','2021-12-08'),
5  ('20201003','DEH75831467LI','2021-11-22'),
6  ('20201004','EDK4572049PE7','2020-12-04'),
7  ('20201005','SKLE784596145','2020-12-08');
```

Output

				user_id	ISBN	Reserve_date
☐	Edit	Copy	Delete	20201001	AREV45832075L	2020-11-22
☐	Edit	Copy	Delete	20201002	ASC148765492P	2021-12-08
☐	Edit	Copy	Delete	20201003	DEH75831467LI	2021-11-22
☐	Edit	Copy	Delete	20201004	EDK4572049PE7	2020-12-04
☐	Edit	Copy	Delete	20201005	AREV45832075L	2020-12-08

↑ ☐ Check all   *With selected:*   Edit   Copy   Delete   Export

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

Journal table

Code

INSERT INTO journal VALUES

('J1000500',73520144),

('J1000501',73520145),

('J1000502',73520146),

('J1000503',73520147),

('J1000504',73520148);

```
1  INSERT INTO journal VALUES
2
3  ('J1000500',73520144),
4  ('J1000501',73520145),
5  ('J1000502',73520146),
6  ('J1000503',73520147),
7  ('J1000504',73520148);
```

Output

+ Options

	J_barcode	ISSN
☐ 🖉 Edit ⬚ Copy ⊖ Delete	J1000500	73520144
☐ 🖉 Edit ⬚ Copy ⊖ Delete	J1000501	73520145
☐ 🖉 Edit ⬚ Copy ⊖ Delete	J1000502	73520146
☐ 🖉 Edit ⬚ Copy ⊖ Delete	J1000503	73520147
☐ 🖉 Edit ⬚ Copy ⊖ Delete	J1000504	73520148

↑⌐ ☐ Check all   With selected: 🖉 Edit   ⬚ Copy   ⊖ Delete   🖳 Export

Order_ table

Code

INSERT INTO order_ (ISBN,Lib_id,barcode,order_date)

VALUES

('AREV45832075L','L0201005','1548V78527894','2000-03-02'),

('ASC148765492P','L0201005','7HJ85478O9648','2000-02-01'),

('DEH75831467LI','L0201005','QT45876BL48612','2001-03-03'),

('EDK4572049PE7','L0201004','SA789IO785214','2010-02-01'),

('SKLE784596145','L0201002','SKA4727472879','2014-02-05');

```
1  INSERT INTO order_ (ISBN,Lib_id,barcode,order_date)
2  VALUES
3  ('AREV45832075L','L0201005','1548V78527894','2000-03-02'),
4  ('ASC148765492P','L0201005','7HJ8547809648','2000-02-01'),
5  ('DEH75831467LI','L0201005','QT45876BL48612','2001-03-03'),
6  ('EDK4572049PE7','L0201004','SA789IO785214','2010-02-01'),
7  ('SKLE784596145','L0201002','SKA4727472879','2014-02-05');
8
```

Output

				ISBN	Lib_id	barcode	order_date
☐	Edit	Copy	Delete	AREV45832075L	L0201005	1548V78527894	2000-03-02
☐	Edit	Copy	Delete	ASC148765492P	L0201005	7HJ8547809648	2000-02-01
☐	Edit	Copy	Delete	DEH75831467LI	L0201005	QT45876BL48612	2001-03-03
☐	Edit	Copy	Delete	EDK4572049PE7	L0201004	SA789IO785214	2010-02-01
☐	Edit	Copy	Delete	SKLE784596145	L0201002	SKA4727472879	2014-02-05

Check all   With selected: Edit   Copy   Delete   Export

Q5

a) **Code**
SELECT Title
FROM book
WHERE Year_published='2000';

Run SQL query/queries on database acl_library: ⓘ

```
1  SELECT Title
2  FROM book
3  WHERE Year_published='2000';
4
5
6
7
8
9
10
11
12
```

[Clear] [Format] [Get auto-saved query]

Output

Show query box

✔ Showing rows 0 - 1 (2 total, Query took 0.0536 seconds.)

SELECT Title FROM book WHERE Year_published='2000'

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

+ Options

←T→	Title
☐ 🖉 Edit ⌗ Copy ⊘ Delete	Magic of Thinking Big
☐ 🖉 Edit ⌗ Copy ⊘ Delete	Courage to be disliked

↑ ☐ Check all   *With selected:* 🖉 Edit   ⌗ Copy   ⊘ Delete   ⊞ Export

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

b)code

SELECT Publisher,Description

FROM journal_info

WHERE JournalName='The Wisdom';

```
1 SELECT Publisher,Description
2 FROM journal_info
3 WHERE JournalName='The Wisdom';
```

Output

+ Options

←T→	Publisher	Description
☐ 🖉 Edit ᣓ Copy ⊖ Delete	Wisdom Publishers	Award winning magazine in year 2001

↑ ☐ Check all   With selected: 🖉 Edit   ᣓ Copy   ⊖ Delete   📧 Export

☐ Show all | Number of rows: 25 ⌄   Filter rows: Search this table

Query results operations

🖨 Print   ᣓ Copy to clipboard   📧 Export   📊 Display chart   📇 Create view

c)code
SELECT Title FROM book
WHERE ISBN=(SELECT ISBN from reserve WHERE user_id=(select user_id FROM ACLUser WHERE
(fname='Amal')AND (lname='Perera')));

```
1 SELECT Title FROM book
2 WHERE ISBN=(SELECT ISBN from reserve WHERE user_id=(select user_id FROM ACLUser WHERE (fname='Amal')AND (lname='Perera')));
```

Clear   Format   Get auto-saved query

Output

Show query box

✔ Showing rows 0 - 0 (1 total, Query took 0.0685 seconds.)

SELECT Title FROM book WHERE ISBN=(SELECT ISBN from reserve WHERE user_id=(select user_id FROM ACLUser WHERE (fname='Amal')AND (lname='Perera')))

☐ Profil

☐ Show all | Number of rows: 25 ▼   Filter rows: Search this table

+ Options

←T→   **Title**

☐ ✏ Edit ⧉ Copy ⊖ Delete Brida

↑ ☐ Check all   With selected: ✏ Edit   ⧉ Copy   ⊖ Delete   ⬛ Export

☐ Show all | Number of rows: 25 ▼   Filter rows: Search this table

Query results operations

🖨 Print   ⧉ Copy to clipboard   ⬛ Export   📊 Display chart   🗗 Create view

d)code

SELECT barcode from order_ WHERE (Lib_id=(SELECT Lib_id FROM librarian
WHERE(fname='Ann') AND (lname='Fernando'))) AND (order_date <'2000-04-01');

```
1 SELECT barcode from order_ WHERE (Lib_id=(SELECT Lib_id FROM librarian WHERE(fname='Ann') AND (lname='Fernando') )) AND (order_date <'2000-04-01')
```

Clear   Format   Get auto-saved query
☐ Bind parameters ⑦

Output

Show query box

```
SELECT barcode from order_ WHERE (Lib_id=(SELECT Lib_id FROM librarian WHERE(fname='Ann') AND (lname='Fernando') )) AND (order_date <'2000-04-01')
```

☐ Profili

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

+ Options

	barcode
☐ 🖉 Edit ⬚ Copy ⊖ Delete	1548V78527894
☐ 🖉 Edit ⬚ Copy ⊖ Delete	7HJ85478O9648

↑ ☐ Check all   With selected: 🖉 Edit   ⬚ Copy   ⊖ Delete   🖳 Export

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

Query results operations

🖨 Print   ⬚ Copy to clipboard   🖳 Export   📊 Display chart   🗗 Create view

2 book copies