(Q1) (01) RELATIONSHIP BETWEEN USER AND ACADEMIC BOOK:

        User can reserve many books but if the required book isn't available no reservations.

        A particular book may be reserved by many or not.

(02) RELATIONSHIP BETWEEN LIBRARYUSER AND COPY:

        User may not burrow a copy or may burrow many copies.

        At an instance a copy can, be burrowed by 1 or no user.

(01) RELATIONSHIP BETWEEN ACADEMIC BOOK AND COPY:

        An academic book can have many copies or copies may be finished.

        A particular copy can be of one particular book.

(02) RELATIONSHIP BETWEEN ACADEMIC JOURNAL AND ARTICLE:

        An academic journal can have 1 or many articles.

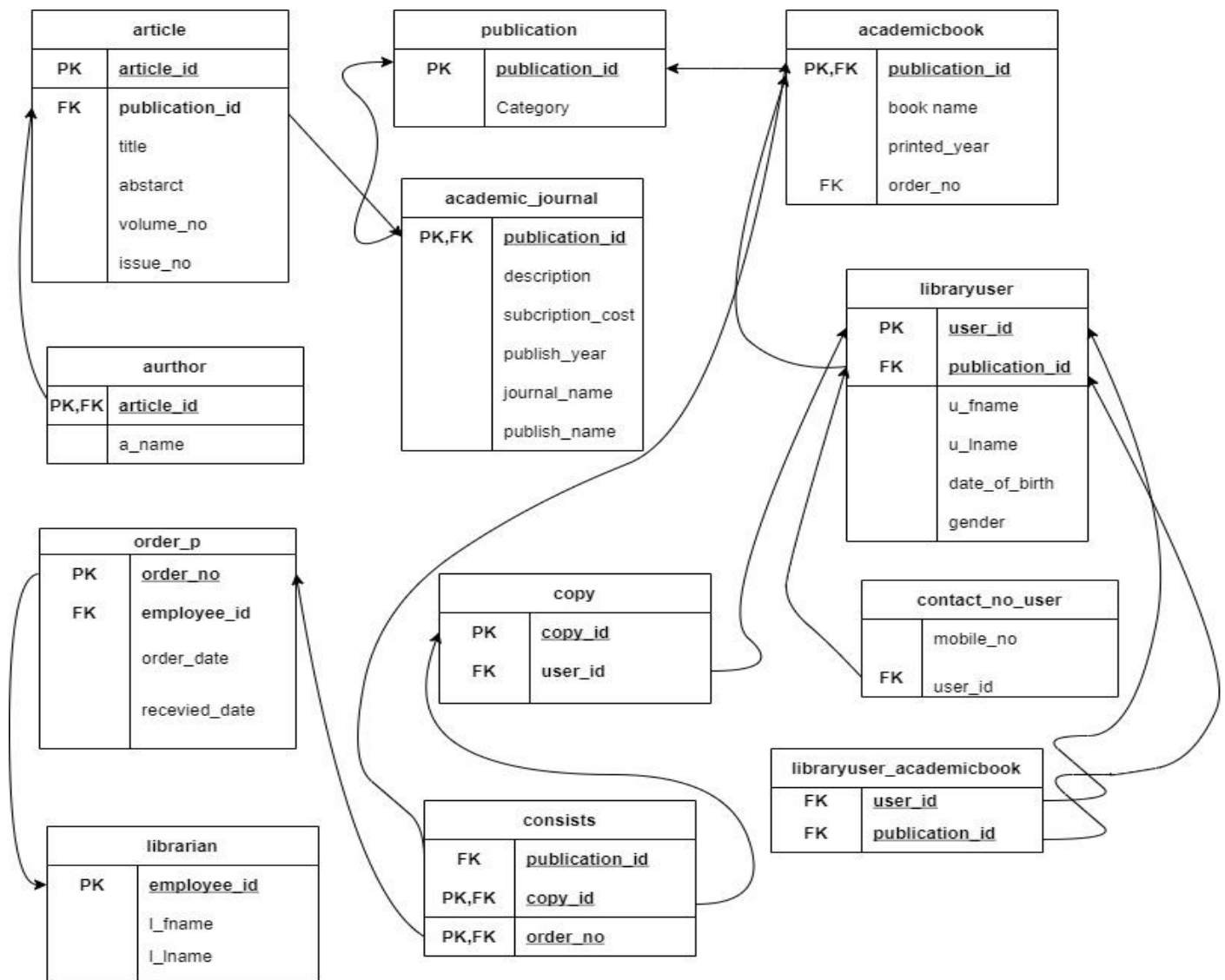   A particular article can be of one particular academic journal.

(03) RELATIONSHIP BETWEEN LIBRARIAN AND ORDER:

        A librarian will not order books (if required number of copies available) or will order many books as required.

        A particular order will be made by a particular librarian.

(04) RELATIONSHIP BETWEEN ORDER, ACADEMIC BOOK, COPY:

        This is a ternary relationship.

        An order may contain 1 or many, academic book or copy.

(05)GENERALIZATION CONCEPT used is Optional, OR – The library may contain publications except Academic Books

    and Academic Journals such as children's books, novels

article

PK	article_id
FK	publication_id
	title
	abstarct
	volume_no
	issue_no

publication

PK	publication_id
	Category

academicbook

PK,FK	publication_id
	book name
	printed_year
FK	order_no

academic_journal

PK,FK	publication_id
	description
	subcription_cost
	publish_year
	journal_name
	publish_name

aurthor

PK,FK	article_id
	a_name

libraryuser

PK	user_id
FK	publication_id
	u_fname
	u_lname
	date_of_birth
	gender

order_p

PK	order_no
FK	employee_id
	order_date
	recevied_date

copy

PK	copy_id
FK	user_id

contact_no_user

	mobile_no
FK	user_id

librarian

PK	employee_id
	l_fname
	l_lname

consists

FK	publication_id
PK,FK	copy_id
PK,FK	order_no

libraryuser_academicbook

FK	user_id
FK	publication_id

(Q2)

(1)library user and Academic book relationship is a many to many relationship therefore another relation named libraryuser_academicbook is created.Primary keys of libraryuser and Academic book are placed as foreign keys.

(2)A new relation is created named 'consists' because order,copy,academic_book is a ternary relationship.

(3) Contact no is a multivalued attribute therefore a new relation is created named 'contact_no_user' with foreign key user_id.

(4) Article relation is in unormalised form due to author name(a_name) being multivalued.Therefore a new relation is created named 'Aurthor' with article_id as foreign key.

(5) Since Optional, OR generalization concept is used Primary key of Publication relation is given to Academic Journal and Academic book relations as foreign keys.

(6) Librarian and Order_P are in one-to-many relationship therefore employee_id is placed in order_p as a foreign key.

(7) Academic Journal and Article are in one-to-many relationship therefore publication_id is placed in article as a foreign key.

(8) Library_user and Copy are in one-to-many relationship therefore user_id is placed in Copy as a foreign key.

(Q3) AND **(Q4)**

```sql
1  DROP DATABASE rgucw3;
2
3  CREATE DATABASE rgucw3;
4
5  USE rgucw3;
6
7  CREATE TABLE publication
8      (
9          publication_id VARCHAR(20) NOT NULL,
10         category VARCHAR(20) NOT NULL,
11         CONSTRAINT PRIMARY KEY(publication_id)
12     );
13 INSERT INTO
14 publication (publication_id,category)
15 VALUES
16 ('C00001','Computer Science'),
17 ('C00002','Medicine'),
18 ('C00003','Computer Science'),
19 ('C00004','Engineering'),
20 ('C00005','Philosophy'),
21 ('C00006','Computer Science'),
22 ('C00007','Biology'),
23 ('C00008','History'),
24 ('C00009','Geography'),
25 ('C00010','History'),
```

```sql
25 ('C00010','History'),
26 ('C00011','Fiction'),
27 ('C00012','Children'),
28 ('C00013','Teenage'),
29 ('C00014','Fiction'),
30 ('C00015','Poetry'),
31 ('C00016','Children');
32
33 CREATE TABLE librarian
34     (
35         employee_id VARCHAR(15) NOT NULL,
36         l_fname VARCHAR(25) NOT NULL,
37         l_lname VARCHAR(25),
38         CONSTRAINT PRIMARY KEY(employee_id)
39     );
40
41 INSERT INTO
42 librarian(employee_id,l_fname,l_lname)
43 VALUES
44 ('E00001','Rajitha','Karunanayaka'),
45 ('E00002','Chammi','Perera'),
46 ('E00003','Kusum',Null),
47 ('E00004','Buwaneka','De Silva'),
48 ('E00005','Anne','Fernando');
49
```

```sql
49
50 CREATE TABLE order_P
51     (
52          order_no VARCHAR(15) NOT NULL,
53          employee_id VARCHAR(15) NOT NULL,
54          order_date DATE NOT NULL,
55          received_date DATE NOT NULL,
56          CONSTRAINT PRIMARY KEY(order_no),
57          CONSTRAINT orderp_e_fk FOREIGN KEY(employee_id) REFERENCES librarian(employee_id)
58     );
59
60 INSERT INTO
61 order_P(order_no,employee_id,order_date,received_date)
62 VALUES
63 ('O10012','E00001','2021-10-30','2021-11-15'),
64 ('O10013','E00002','2021-09-17','2021-11-25'),
65 ('O10014','E00003','2021-08-01','2021-10-22'),
66 ('O10015','E00005','2000-03-30','2000-07-15'),
67 ('O10016','E00005','2000-01-20','2000-05-27'),
68 ('O10017','E00003','2020-01-20','2020-08-27'),
69 ('O10018','E00002','1999-01-20','1999-10-27');
70
```

```sql
72 CREATE TABLE academic_journal
73     (
74          publication_id VARCHAR(20) NOT NULL,
75          description VARCHAR(75),
76          subcription_cost INTEGER(5),
77          publish_year INTEGER(4),
78          journal_name VARCHAR(20),
79          publish_name VARCHAR(20),
80          CONSTRAINT PRIMARY KEY(publication_id),
81          CONSTRAINT academicj_p_fk FOREIGN KEY(publication_id) REFERENCES publication(publication_id)
82     );
83
84 INSERT INTO
85 academic_journal(publication_id,description,subcription_cost,publish_year,journal_name,publish_name)
86 VALUES
87 ('C00001','This journal contain research related to AI','01000','2010','The Future AI','Random House'),
88 ('C00002','This journal contain research related to Cancer','02000','2015','Cancer','Penguin Books'),
89 ('C00003','This journal contain research related to Bioinformatics','02300','2016','BioData Mining','Gray Wolf'),
90 ('C00004','This journal contain research related to Material Engineering','01300','2020','The Structure','Random House'),
91 ('C00005','This journal contain research related to philosophy and science','10000','2013','The Wisdom','Wisdom House');
92
```

```sql
93
94  CREATE TABLE AcademicBook
95      (
96          publication_id VARCHAR(20) NOT NULL,
97          book_name VARCHAR(50) NOT NULL,
98          printed_year INTEGER(4),
99          order_no VARCHAR(15),
100         CONSTRAINT PRIMARY KEY(publication_id),
101         CONSTRAINT academicb_p_fk FOREIGN KEY(publication_id) REFERENCES publication(publication_id),
102         CONSTRAINT academicb_O_fk FOREIGN KEY(order_no) REFERENCES order_P(order_no)
103     );
104
105 INSERT INTO
106 AcademicBook(publication_id,book_name,printed_year,order_no)
107 VALUES
108 ('C00006','Learn Python','2000',NULL),
109 ('C00007','Human Body','2001','O10017'),
110 ('C00008','A brief History of Time','2000',NULL),
111 ('C00009','Silent Spring','2003',NULL),
112 ('C00010','Naked Ape','2005','O10018');
```

```sql
115 CREATE TABLE article
116     (
117         article_id VARCHAR(10) NOT NULL,
118         publication_id VARCHAR(20) NOT NULL,
119         title VARCHAR(100) NOT NULL,
120         abstract VARCHAR(175),
121         volume_no VARCHAR(4) NOT NULL,
122         issue_no VARCHAR(25) NOT NULL,
123         CONSTRAINT PRIMARY KEY(article_id),
124         CONSTRAINT article_p_fk FOREIGN KEY(publication_id) REFERENCES academic_journal(publication_id)
125
126     );
127
128 INSERT INTO
129 article(article_id,publication_id,title,abstract,volume_no,issue_no)
130 VALUES
131 ('A00001','C00001','State of AI by 2030','This article is Ygor effort to summarise the key takeaways from the third installment of the article State of AI','10','4'),
132 ('A00002','C00002','Diagnosis and Detection of Pancreatic Cancer','Computed tomography is the first-line imaging modality for suspected pancreatic cancer.','11','3'),
133 ('A00003','C00003','Predective modeling of gene expression regulation','In depth analysis of regulation networks of genes aberrantly expressed in cancer is essential for better understanding of tumors','12','5'),
134 ('A00004','C00004','Strengthening mechanisms in selective laser melted 316L stainless steel','The microstructure and chemical composition of 316L stainless steel prepared by selective laser melting have been characterized using electron backscatter diffraction.','1','2'),
135 ('A00005','C00005','The Art of Chemical Bond','Chemical bonding enables scientists to take the 100 plus elements of the periodic table and combine them in myriad ways to form chemical compounds.','3','8');
```

```sql
CREATE TABLE aurthor
    (
            article_id VARCHAR(10) NOT NULL,
            a_name VARCHAR(25) NOT NULL,
            CONSTRAINT PRIMARY KEY(article_id),
            CONSTRAINT aurthor_a_fk FOREIGN KEY(article_id) REFERENCES article(article_id)

    );

INSERT INTO
aurthor(article_id,a_name)
VALUES
('A00001','W.A Rollings'),
('A00002','P. Albert'),
('A00003','A. Shuman'),
('A00004','Peter Cobbe'),
('A00005','Thomas Scavern');


CREATE TABLE LibraryUser
    (
            user_id VARCHAR(10) NOT NULL,
            publication_id VARCHAR(20) NOT NULL,
            u_fname VARCHAR(25) NOT NULL,
            u_lname VARCHAR(25) NOT NULL,
```

```sql
178 CREATE TABLE contact_no_user
179     (
180         mobile_no VARCHAR(15) NOT NULL,
181         user_id VARCHAR(10) NOT NULL,
182         CONSTRAINT contact_no_u_fk FOREIGN KEY(user_id) REFERENCES LibraryUser(user_id)
183     );
184
185 INSERT INTO
186 contact_no_user(mobile_no,user_id)
187 VALUES
188 ('0712356712','U00006'),
189 ('0712356778','U00007'),
190 ('0762856712','U00008'),
191 ('0712300912','U00009'),
192 ('0709756712','U00010');
193
```

```sql
194
195 CREATE TABLE copy
196     (
197         copy_id VARCHAR(15) NOT NULL,
198         user_id VARCHAR(15) NOT NULL,
199         CONSTRAINT PRIMARY KEY(copy_id),
200         CONSTRAINT copy_c_u_fk FOREIGN KEY(user_id) REFERENCES LibraryUser(user_id)
201     );
202
203 INSERT INTO
204 copy(copy_id,user_id)
205 VALUES
206 ('Q0006','U00006'),
207 ('Q0007','U00007'),
208 ('Q0008','U00008'),
209 ('Q0009','U00009'),
210 ('Q0010','U00010');
211
```

```sql
213  CREATE TABLE consists
214      (
215          publication_id VARCHAR(20) NOT NULL,
216          copy_id VARCHAR(20) NOT NULL,
217          order_no VARCHAR(15) NOT NULL,
218          CONSTRAINT PRIMARY KEY(copy_id,order_no),
219          CONSTRAINT consists_p_fk FOREIGN KEY(publication_id) REFERENCES Academicbook(publication_id),
220          CONSTRAINT consists_o_fk FOREIGN KEY(order_no) REFERENCES order_p(order_no),
221          CONSTRAINT consists_c_fk FOREIGN KEY(copy_id) REFERENCES copy(copy_id)
222      );
223
224  INSERT INTO
225  consists(publication_id,copy_id,order_no)
226  VALUES
227  ('C00006','Q0006','O10012'),
228  ('C00007','Q0007','O10013'),
229  ('C00008','Q0008','O10014'),
230  ('C00009','Q0009','O10015'),
231  ('C00010','Q0010','O10016');
232
```

```sql
233  CREATE TABLE LibraryUser_AcademicBook
234      (
235          user_id VARCHAR(15) NOT NULL,
236          publication_id VARCHAR(20) NOT NULL,
237          CONSTRAINT p_id_la FOREIGN KEY(publication_id) REFERENCES Academicbook(publication_id),
238          CONSTRAINT u_id FOREIGN KEY(user_id) REFERENCES LibraryUser(user_id)
239
240      );
241
242  INSERT INTO
243  LibraryUser_AcademicBook(user_id,publication_id)
244  VALUES
245  ('U00006','C00006'),
246  ('U00007','C00007'),
247  ('U00008','C00008'),
248  ('U00009','C00009'),
249  ('U00010','C00010');
250
251
252  SELECT book_name
253  FROM Academicbook
254  WHERE printed_year='2000';
255
256  SELECT publish_name,description
257  FROM academic_journal
```

MySQL returned an empty result set (i.e. zero rows). (Query took 2.9483 seconds.)

```sql
DROP DATABASE rgucw3;
```

[Edit inline] [Edit] [Create PHP code]

⚠ Error: #1046 No database selected

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0033 seconds.)

```sql
CREATE DATABASE rgucw3;
```

[Edit inline] [Edit] [Create PHP code]

⚠ Error: #1049 Unknown database 'rgucw3'

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0009 seconds.)

```sql
USE rgucw3;
```

[Edit inline] [Edit] [Create PHP code]

MySQL returned an empty result set (i.e. zero rows). (Query took 0.2439 seconds.)

```sql
CREATE TABLE publication ( publication_id VARCHAR(20) NOT NULL, category VARCHAR(20) NOT NULL, CONSTRAINT PRIMARY KEY(publication_id) );
```

[Edit inline] [Edit] [Create PHP code]

16 rows inserted. (Query took 0.2124 seconds.)

```sql
INSERT INTO publication (publication_id,category) VALUES ('C00001','Computer Science'), ('C00002','Medicine'), ('C00003','Computer Science'), ('C00004','Engineering'),
('C00005','Philosophy'), ('C00006','Computer Science'), ('C00007','Biology'), ('C00008','History'), ('C00009','Geography'), ('C00010','History'), ('C00011','Fiction'),
('C00012','Children'), ('C00013','Teenage'), ('C00014','Fiction'), ('C00015','Poetry'), ('C00016','Children');
```

[Edit inline] [Edit] [Create PHP code]

MySQL returned an empty result set (i.e. zero rows). (Query took 0.4475 seconds.)

```sql
CREATE TABLE librarian ( employee_id VARCHAR(15) NOT NULL, l_fname VARCHAR(25) NOT NULL, l_lname VARCHAR(25), CONSTRAINT PRIMARY KEY(employee_id) );
```

[Edit inline] [Edit] [Create PHP code]

5 rows inserted. (Query took 0.0624 seconds.)

```sql
INSERT INTO librarian(employee_id,l_fname,l_lname) VALUES ('E00001','Rajitha','Karunanayaka'), ('E00002','Chammi','Perera'), ('E00003','Kusum',Null), ('E00004','Buwaneka','De
Silva'), ('E00005','Anne','Fernando');
```

[Edit inline] [Edit] [Create PHP code]

MySQL returned an empty result set (i.e. zero rows). (Query took 0.2448 seconds.)

```sql
CREATE TABLE order_P ( order_no VARCHAR(15) NOT NULL, employee_id VARCHAR(15) NOT NULL, order_date DATE NOT NULL, received_date DATE NOT NULL, CONSTRAINT PRIMARY KEY(order_no),
CONSTRAINT orderp_e_fk FOREIGN KEY(employee_id) REFERENCES librarian(employee_id) );
```

[Edit inline] [Edit] [Create PHP code]

7 rows inserted. (Query took 0.1285 seconds.)

```sql
INSERT INTO order_P(order_no,employee_id,order_date,received_date) VALUES ('O10012','E00001','2021-10-30','2021-11-15'), ('O10013','E00002','2021-09-17','2021-11-25'),
('O10014','E00003','2021-08-01','2021-10-22'), ('O10015','E00005','2000-03-30','2000-07-15'), ('O10016','E00005','2000-01-20','2000-05-27'), ('O10017','E00003','2020-01-20','2020-
08-27'), ('O10018','E00002','1999-01-20','1999-10-27');
```

[Edit inline] [Edit] [Create PHP code]

MySQL returned an empty result set (i.e. zero rows). (Query took 0.2659 seconds.)

```sql
CREATE TABLE academic_journal ( publication_id VARCHAR(20) NOT NULL, description VARCHAR(75), subcription_cost INTEGER(5), publish_year INTEGER(4), journal_name VARCHAR(20),
publish_name VARCHAR(20), CONSTRAINT PRIMARY KEY(publication_id), CONSTRAINT academicj_p_fk FOREIGN KEY(publication_id) REFERENCES publication(publication_id) );
```

[Edit inline] [Edit] [Create PHP code]

5 rows inserted. (Query took 0.0445 seconds.)

```sql
INSERT INTO academic_journal(publication_id,description,subcription_cost,publish_year,journal_name,publish_name) VALUES ('C00001','This journal contain research related to
AI','01000','2010','The Future AI','Random House'), ('C00002','This journal contain research related to Cancer','02000','2015','Cancer','Penguin Books'), ('C00003','This journal
contain research related to Bioinformatics','02300','2016','BioData Mining','Gray Wolf'), ('C00004','This journal contain research related to Material
Engineering','01300','2020','The Structure','Random House'), ('C00005','This journal contain research related to philosophy and science','10000','2013','The Wisdom','Wisdom House');
```

[Edit inline] [Edit] [Create PHP code]

MySQL returned an empty result set (i.e. zero rows). (Query took 0.4441 seconds.)

```sql
CREATE TABLE AcademicBook ( publication_id VARCHAR(20) NOT NULL, book_name VARCHAR(50) NOT NULL, printed_year INTEGER(4), order_no VARCHAR(15), CONSTRAINT PRIMARY
KEY(publication_id), CONSTRAINT academicb_p_fk FOREIGN KEY(publication_id) REFERENCES publication(publication_id), CONSTRAINT academicb_O_fk FOREIGN KEY(order_no) REFERENCES
order_P(order_no) );
```

[Edit inline] [Edit] [Create PHP code]

5 rows inserted. (Query took 0.1472 seconds.)

```sql
INSERT INTO AcademicBook(publication_id,book_name,printed_year,order_no) VALUES ('C00006','Learn Python','2000',NULL), ('C00007','Human Body','2001','O10017'), ('C00008','A brief
History of Time','2000',NULL), ('C00009','Silent Spring','2003',NULL), ('C00010','Naked Ape','2005','O10018');
```

[Edit inline] [Edit] [Create PHP code]

✅ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2558 seconds.)

```
CREATE TABLE article ( article_id VARCHAR(10) NOT NULL, publication_id VARCHAR(20) NOT NULL, title VARCHAR(100) NOT NULL, abstract VARCHAR(175), volume_no VARCHAR(4) NOT NULL,
issue_no VARCHAR(25) NOT NULL, CONSTRAINT PRIMARY KEY(article_id), CONSTRAINT article_p_fk FOREIGN KEY(publication_id) REFERENCES academic_journal(publication_id) );
```

[Edit inline] [Edit] [Create PHP code]

✅ 5 rows inserted. (Query took 0.1676 seconds.)

```
INSERT INTO article(article_id,publication_id,title,abstract,volume_no,issue_no) VALUES ('A00001','C00001','State of AI by 2030','This article is Ygor effort to summarise the key
takeaways from the third installment of the article State of AI','10','4'), ('A00002','C00002','Diagnosis and Detection of Pancreatic Cancer','Computed tomography is the first-
line imaging modality for suspected pancreatic cancer.','11','3'), ('A00003','C00003','Predective modeling of gene expression regulation','In depth analysis of regulation networks
of genes aberrantly expressed in cancer is essential for better understanding of tumors','12','5'), ('A00004','C00004','Strengthening mechanisms in selective laser melted 316L
stainless steel','The microstructure and chemical composition of 316L stainless steel prepared by selective laser melting have been characterized using electron backscatter
diffraction.','1','2'), ('A00005','C00005','The Art of Chemical Bond','Chemical bonding enables scientists [...]
```

[Edit]

✅ MySQL returned an empty result set (i.e. zero rows). (Query took 0.7591 seconds.)

```
CREATE TABLE aurthor ( article_id VARCHAR(10) NOT NULL, a_name VARCHAR(25) NOT NULL, CONSTRAINT PRIMARY KEY(article_id), CONSTRAINT aurthor_a_fk FOREIGN KEY(article_id) REFERENCES
article(article_id) );
```

[Edit inline] [Edit] [Create PHP code]

■ Console

✅ 5 rows inserted. (Query took 0.0640 seconds.)

```sql
INSERT INTO aurthor(article_id,a_name) VALUES ('A00001','W.A Rollings'), ('A00002','P. Albert'), ('A00003','A. Shuman'), ('A00004','Peter Cobbe'), ('A00005','Thomas Scavern');
```

[Edit inline] [Edit] [Create PHP code]

✅ MySQL returned an empty result set (i.e. zero rows). (Query took 0.3858 seconds.)

```sql
CREATE TABLE LibraryUser ( user_id VARCHAR(10) NOT NULL, publication_id VARCHAR(20) NOT NULL, u_fname VARCHAR(25) NOT NULL, u_lname VARCHAR(25) NOT NULL, date_of_birth DATE, gender CHARACTER(1), CONSTRAINT PRIMARY KEY(user_id), CONSTRAINT libraryuser_p_fk FOREIGN KEY(publication_id) REFERENCES Academicbook(publication_id) );
```

[Edit inline] [Edit] [Create PHP code]

✅ 5 rows inserted. (Query took 0.1553 seconds.)

```sql
INSERT INTO LibraryUser(user_id,publication_id,u_fname,u_lname,date_of_birth,gender) VALUES ('U00006','C00006','Saman','Gunawardana','1980-12-07','M'),
('U00007','C00007','Biman','De Silva','1985-11-17','M'), ('U00008','C00008','Amal','Perera','2001-12-08','M'), ('U00009','C00009','Chathumini','Perera','1999-12-07','F'),
('U00010','C00010','Osandi','Karunanayaka','1995-05-07','F');
```

[Edit inline] [Edit] [Create PHP code]

✅ MySQL returned an empty result set (i.e. zero rows). (Query took 0.3995 seconds.)

```sql
CREATE TABLE contact_no_user ( mobile_no VARCHAR(15) NOT NULL, user_id VARCHAR(10) NOT NULL, CONSTRAINT contact_no_u_fk FOREIGN KEY(user_id) REFERENCES LibraryUser(user_id) );
```

[Edit inline] [Edit] [Create PHP code]

✅ 5 rows inserted. (Query took 0.4191 seconds.)

```sql
INSERT INTO contact_no_user(mobile_no,user_id) VALUES ('0712356712','U00006'), ('0712356778','U00007'), ('0762856712','U00008'), ('0712300912','U00009'), ('0709756712','U00010');
```

[Edit inline] [Edit] [Create PHP code]

✅ MySQL returned an empty result set (i.e. zero rows). (Query took 0.4456 seconds.)

```sql
CREATE TABLE copy ( copy_id VARCHAR(15) NOT NULL, user_id VARCHAR(15) NOT NULL, CONSTRAINT PRIMARY KEY(copy_id), CONSTRAINT copy_c_u_fk FOREIGN KEY(user_id) REFERENCES LibraryUser(user_id) );
```

[Edit inline] [Edit] [Create PHP code]

✅ 5 rows inserted. (Query took 0.1704 seconds.)

```sql
INSERT INTO copy(copy_id,user_id) VALUES ('Q0006','U00006'), ('Q0007','U00007'), ('Q0008','U00008'), ('Q0009','U00009'), ('Q0010','U00010');
```

[Edit inline] [Edit] [Create PHP code]

✅ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2419 seconds.)

```sql
CREATE TABLE consists ( publication_id VARCHAR(20) NOT NULL, copy_id VARCHAR(20) NOT NULL, order_no VARCHAR(15) NOT NULL, CONSTRAINT PRIMARY KEY(copy_id,order_no), CONSTRAINT consists_p_fk FOREIGN KEY(publication_id) REFERENCES Academicbook(publication_id), CONSTRAINT consists_o_fk FOREIGN KEY(order_no) REFERENCES order_p(order_no), CONSTRAINT consists_c_fk FOREIGN KEY(copy_id) REFERENCES copy(copy_id) );
```

[Edit inline] [Edit] [Create PHP code]

✅ 5 rows inserted. (Query took 0.0395 seconds.)

```sql
INSERT INTO consists(publication_id,copy_id,order_no) VALUES ('C00006','Q0006','O10012'), ('C00007','Q0007','O10013'), ('C00008','Q0008','O10014'), ('C00009','Q0009','O10015'),
('C00010','Q0010','O10016');
```

[Edit inline] [Edit] [Create PHP code]

✅ MySQL returned an empty result set (i.e. zero rows). (Query took 0.3150 seconds.)

```sql
CREATE TABLE LibraryUser_AcademicBook ( user_id VARCHAR(15) NOT NULL, publication_id VARCHAR(20) NOT NULL, CONSTRAINT p_id_la FOREIGN KEY(publication_id) REFERENCES Academicbook(publication_id), CONSTRAINT u_id FOREIGN KEY(user_id) REFERENCES LibraryUser(user_id) );
```

[Edit inline] [Edit] [Create PHP code]

✅ 5 rows inserted. (Query took 0.1309 seconds.)

```sql
INSERT INTO LibraryUser_AcademicBook(user_id,publication_id) VALUES ('U00006','C00006'), ('U00007','C00007'), ('U00008','C00008'), ('U00009','C00009'), ('U00010','C00010');
```

[Edit inline] [Edit] [Create PHP code]

✅ Showing rows 0 - 1 (2 total, Query took 0.0025 seconds.)

```sql
SELECT book_name FROM Academicbook WHERE printed_year='2000';
```

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

(Q5)

```
252 SELECT book_name
253 FROM Academicbook
254 WHERE printed_year='2000';
```

SELECT book_name FROM Academicbook WHERE printed_year='2000';

☐ 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

←T→				book_name
☐	✏ Edit	⬛ Copy	⊖ Delete	Learn Python
☐	✏ Edit	⬛ Copy	⊖ Delete	A brief History of Time

```
256 SELECT publish_name,description
257 FROM academic_journal
258 WHERE journal_name='The Wisdom';
```

✔ Showing rows 0 - 0 (1 total, Query took 0.0022 seconds.)

SELECT publish_name,description FROM academic_journal WHERE journal_name='The Wisdom';

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

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

+ Options

←T→		publish_name	description
☐	✏ Edit ⬛ Copy ⊖ Delete	Wisdom House	This journal contain research related to philosoph...

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

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

```
260 SELECT book_name FROM Academicbook JOIN LibraryUser JOIN LibraryUser_AcademicBook
261 ON LibraryUser_AcademicBook.user_id=LibraryUser.user_id AND LibraryUser_AcademicBook.publication_id=Academicbook.publication_id
262 WHERE u_fname='Amal' and u_lname='Perera';
```

✔ Showing rows 0 - 0 (1 total, Query took 0.0024 seconds.)

SELECT book_name FROM Academicbook JOIN LibraryUser JOIN LibraryUser_AcademicBook ON LibraryUser_AcademicBook.user_id=LibraryUser.user_id AND
LibraryUser_AcademicBook.publication_id=Academicbook.publication_id WHERE u_fname='Amal' and u_lname='Perera';

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

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

+ Options

book_name

A brief History of Time

```
264  SELECT employee_id
265  FROM librarian
266  WHERE l_fname='Anne' and l_lname='Fernando';
267
268  SELECT COUNT(order_no)
269  FROM order_p |
270  WHERE employee_id='E00005' and order_date<='2000-03-31';
271
```

✔ Showing rows 0 - 0 (1 total, Query took 0.0018 seconds.)

SELECT employee_id FROM librarian WHERE l_fname='Anne' and l_lname='Fernando';

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

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

+ Options

← T →	employee_id
☐ 🖉 Edit ┇ Copy ⊖ Delete	E00005

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

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

Your SQL query has been executed successfully.

SELECT COUNT(order_no) FROM order_p WHERE employee_id='E00005' and order_date<='2000-03-31';

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

+ Options

COUNT(order_no)

2

DATABASE----------→

```sql
SELECT * FROM `academicbook`
```

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

				publication_id	book_name	printed_year	order_no
☐	Edit	Copy	Delete	C00006	Learn Python	2000	NULL
☐	Edit	Copy	Delete	C00007	Human Body	2001	O10017
☐	Edit	Copy	Delete	C00008	A brief History of Time	2000	NULL
☐	Edit	Copy	Delete	C00009	Silent Spring	2003	NULL
☐	Edit	Copy	Delete	C00010	Naked Ape	2005	O10018

```sql
SELECT * FROM `academic_journal`
```

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

				publication_id	description	subcription_cost	publish_year	journal_name	publish_name
☐	Edit	Copy	Delete	C00001	This journal contain research related to AI	1000	2010	The Future AI	Random House
☐	Edit	Copy	Delete	C00002	This journal contain research related to Cancer	2000	2015	Cancer	Penguin Books
☐	Edit	Copy	Delete	C00003	This journal contain research related to Bioinform...	2300	2016	BioData Mining	Gray Wolf
☐	Edit	Copy	Delete	C00004	This journal contain research related to Material ...	1300	2020	The Structure	Random House
☐	Edit	Copy	Delete	C00005	This journal contain research related to philosoph...	10000	2013	The Wisdom	Wisdom House

```sql
SELECT * FROM `article`
```

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

				article_id	publication_id	title	abstract	volume_no	issue_no
☐	Edit	Copy	Delete	A00001	C00001	State of AI by 2030	This article is Ygor effort to summarise the key t...	10	4
☐	Edit	Copy	Delete	A00002	C00002	Diagnosis and Detection of Pancreatic Cancer	Computed tomography is the first-line imaging moda...	11	3
☐	Edit	Copy	Delete	A00003	C00003	Predective modeling of gene expression regulation	In depth analysis of regulation networks of genes ...	12	5
☐	Edit	Copy	Delete	A00004	C00004	Strengthening mechanisms in selective laser melted...	The microstructure and chemical composition of 316...	1	2
☐	Edit	Copy	Delete	A00005	C00005	The Art of Chemical Bond	Chemical bonding enables scientists to take the 10...	3	8

```sql
SELECT * FROM `aurthor`
```

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

				article_id	a_name
☐	Edit	Copy	Delete	A00001	W.A Rollings
☐	Edit	Copy	Delete	A00002	P. Albert
☐	Edit	Copy	Delete	A00003	A. Shuman
☐	Edit	Copy	Delete	A00004	Peter Cobbe
☐	Edit	Copy	Delete	A00005	Thomas Scavern

```
SELECT * FROM `consists`
```

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

+ Options

				publication_id	copy_id	order_no
☐	🖉 Edit	🗐 Copy	⊖ Delete	C00006	Q0006	O10012
☐	🖉 Edit	🗐 Copy	⊖ Delete	C00007	Q0007	O10013
☐	🖉 Edit	🗐 Copy	⊖ Delete	C00008	Q0008	O10014
☐	🖉 Edit	🗐 Copy	⊖ Delete	C00009	Q0009	O10015
☐	🖉 Edit	🗐 Copy	⊖ Delete	C00010	Q0010	O10016

```
SELECT * FROM `contact_no_user`
```

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

+ Options

mobile_no	user_id
0712356712	U00006
0712356778	U00007
0762856712	U00008
0712300912	U00009
0709756712	U00010

```
SELECT * FROM `copy`
```

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

+ Options

				copy_id	user_id
☐	🖉 Edit	🗐 Copy	⊖ Delete	Q0006	U00006
☐	🖉 Edit	🗐 Copy	⊖ Delete	Q0007	U00007
☐	🖉 Edit	🗐 Copy	⊖ Delete	Q0008	U00008
☐	🖉 Edit	🗐 Copy	⊖ Delete	Q0009	U00009
☐	🖉 Edit	🗐 Copy	⊖ Delete	Q0010	U00010

Showing rows 0 - 4 (5 total, Query took 0.0008 seconds.)

```
SELECT * FROM `librarian`
```

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

Show all | Number of rows: 25 ∨ Filter rows: Search this tab

+ Options

				employee_id	l_fname	l_lname
☐	Edit	Copy	Delete	E00001	Rajitha	Karunanayaka
☐	Edit	Copy	Delete	E00002	Chammi	Perera
☐	Edit	Copy	Delete	E00003	Kusum	NULL
☐	Edit	Copy	Delete	E00004	Buwaneka	De Silva
☐	Edit	Copy	Delete	E00005	Anne	Fernando

Showing rows 0 - 4 (5 total, Query took 0.0009 seconds.)

```sql
SELECT * FROM `libraryuser`
```

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

				user_id	publication_id	u_fname	u_lname	date_of_birth	gender
☐	🖊 Edit	🗐 Copy	⊖ Delete	U00006	C00006	Saman	Gunawardana	1980-12-07	M
☐	🖊 Edit	🗐 Copy	⊖ Delete	U00007	C00007	Biman	De Silva	1985-11-17	M
☐	🖊 Edit	🗐 Copy	⊖ Delete	U00008	C00008	Amal	Perera	2001-12-08	M
☐	🖊 Edit	🗐 Copy	⊖ Delete	U00009	C00009	Chathumini	Perera	1999-12-07	F
☐	🖊 Edit	🗐 Copy	⊖ Delete	U00010	C00010	Osandi	Karunanayaka	1995-05-07	F

Showing rows 0 - 4 (5 total, Query took 0.0008 seconds.)

```sql
SELECT * FROM `libraryuser_academicbook`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP c

☐ Show all | Number of rows: 25 ▼   Filter row

+ Options

user_id	publication_id
U00006	C00006
U00007	C00007
U00008	C00008
U00009	C00009
U00010	C00010

+ Options

				order_no	employee_id	order_date	received_date
☐	🖉 Edit	Copy	⊖ Delete	O10012	E00001	2021-10-30	2021-11-15
☐	🖉 Edit	Copy	⊖ Delete	O10013	E00002	2021-09-17	2021-11-25
☐	🖉 Edit	Copy	⊖ Delete	O10014	E00003	2021-08-01	2021-10-22
☐	🖉 Edit	Copy	⊖ Delete	O10015	E00005	2000-03-30	2000-07-15
☐	🖉 Edit	Copy	⊖ Delete	O10016	E00005	2000-01-20	2000-05-27
☐	🖉 Edit	Copy	⊖ Delete	O10017	E00003	2020-01-20	2020-08-27
☐	🖉 Edit	Copy	⊖ Delete	O10018	E00002	1999-01-20	1999-10-27

				publication_id	category
☐	🖉 Edit	Copy	⊖ Delete	C00001	Computer Science
☐	🖉 Edit	Copy	⊖ Delete	C00002	Medicine
☐	🖉 Edit	Copy	⊖ Delete	C00003	Computer Science
☐	🖉 Edit	Copy	⊖ Delete	C00004	Engineering
☐	🖉 Edit	Copy	⊖ Delete	C00005	Philosophy
☐	🖉 Edit	Copy	⊖ Delete	C00006	Computer Science
☐	🖉 Edit	Copy	⊖ Delete	C00007	Biology
☐	🖉 Edit	Copy	⊖ Delete	C00008	History
☐	🖉 Edit	Copy	⊖ Delete	C00009	Geography
☐	🖉 Edit	Copy	⊖ Delete	C00010	History
☐	🖉 Edit	Copy	⊖ Delete	C00011	Fiction
☐	🖉 Edit	Copy	⊖ Delete	C00012	Children
☐	🖉 Edit	Copy	⊖ Delete	C00013	Teenage
☐	🖉 Edit	Copy	⊖ Delete	C00014	Fiction
☐	🖉 Edit	Copy	⊖ Delete	C00015	Poetry
☐	🖉 Edit	Copy	⊖ Delete	C00016	Children