

NPI000172, CT042-3-1

# Introduction To Database - (Individual Component 3)

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## SQL-Data Definition Language (DDL)

There are all sorts of syntaxes for the creation of database, creating of database, creation of tables, inserting values into the table, update the values in the table, delete data from the table. Following are the description for the syntaxes simultaneously.

### **Database Creation:**

In SQL, first of all creation of database is necessary. We cannot create tables without database creation. For creating database following syntax is used:

```
1 CREATE DATABASE Cosmic_Library;
```

### **Create Table:**

After creating a database, you can create a table and insert data/values in the table as various data types all inside the previously created database. Following syntax is required to create a table including Primary key and Foreign Key.

#### ❖ Publisher Table:

```
1 CREATE TABLE Publisher(
2   Publisher_ID varchar(50) PRIMARY KEY,
3   Name varchar(50),
4   Address varchar(50),
5   Email_ID varchar(50),
6   Contact_no bigint
7 );
```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.3960 seconds.)

```
CREATE TABLE Publisher( Publisher_ID varchar(50) PRIMARY KEY, Name varchar(50), Address varchar(50), Email_ID varchar(50), Contact_no bigint );
```

❖ Author Table:

```
1 CREATE TABLE Author(
2 Author_ID varchar(50) PRIMARY KEY,
3 Name varchar(50),
4 Address varchar(50),
5 Contact_no bigint
6 );
```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 1.6787 seconds.)  
CREATE TABLE Author( Author\_ID varchar(50) PRIMARY KEY, Name varchar(50), Address varchar(50), Contact\_no bigint );

❖ Book Table:

```
1 CREATE TABLE Book(
2 Book_ID varchar(50) PRIMARY KEY,
3 ISBN varchar(17),
4 Title varchar(50),
5 Field varchar(50),
6 Publisher_ID varchar(50),
7 Author_ID varchar(50),
8 Edition date,
9 Category varchar(50),
10 Status varchar(50),
11 CONSTRAINT fk_MemberID FOREIGN KEY(Author_ID) REFERENCES author(Author_ID),
12 CONSTRAINT fk_PublisherID FOREIGN KEY(Publisher_ID) REFERENCES publisher(Publisher_ID)
13 );
```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.4125 seconds.)  
CREATE TABLE Book( Book\_ID varchar(50) PRIMARY KEY, ISBN varchar(17), Title varchar(50), Field varchar(50), Publisher\_ID varchar(50), Author\_ID varchar(50), Edition date, Category varchar(50), Status varchar(50), CONSTRAINT fk\_MemberID FOREIGN KEY(Author\_ID) REFERENCES author(Author\_ID), CONSTRAINT fk\_PublisherID FOREIGN KEY(Publisher\_ID) REFERENCES publisher(Publisher\_ID) );

❖ Classification Table:

```
1 CREATE TABLE Classification(
2 Classify_ID varchar(50) PRIMARY KEY,
3 Classify_Name varchar(50)
4 );
```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.5571 seconds.)

```
CREATE TABLE Classification( Classify_ID varchar(50) PRIMARY KEY, Classify_Name varchar(50) );
```

❖ Member Table:

```
1 CREATE TABLE Member(
2 Member_ID varchar(50) PRIMARY KEY,
3 Name varchar(50),
4 Department varchar(50),
5 Status varchar(50),
6 Classify_ID varchar(50),
7 Email_ID varchar(50),
8 CONSTRAINT fk_Classify_ID FOREIGN KEY(Classify_ID) REFERENCES classification(Classify_ID)
9 );
```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 1.0393 seconds.)

```
CREATE TABLE Member( Member_ID varchar(50) PRIMARY KEY, Name varchar(50), Department varchar(50),
Status varchar(50), Classify_ID varchar(50), Email_ID varchar(50), CONSTRAINT fk_Classify_ID FOREIGN
KEY(Classify_ID) REFERENCES classification(Classify_ID) );
```

❖ Transaction Table:

```
1 CREATE TABLE Transaction(
2   Transaction_ID varchar(50) PRIMARY KEY,
3   Member_ID varchar(50),
4   Book_ID varchar(50),
5   Borrow_date date,
6   Return_date date,
7   Actual_Return_date date,
8   Fine int,
9   CONSTRAINT fk_Member_ID1001 FOREIGN KEY(Member_ID) REFERENCES member(Member_ID),
10  CONSTRAINT fk_Book_ID FOREIGN KEY(Book_ID) REFERENCES book(Book_ID)
11 );
```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 3.4700 seconds.)

```
CREATE TABLE Transaction( Transaction_ID varchar(50) PRIMARY KEY, Member_ID varchar(50), Book_ID
varchar(50), Borrow_date date, Return_date date, Actual_Return_date date, Fine int, CONSTRAINT
fk_Member_ID1001 FOREIGN KEY(Member_ID) REFERENCES member(Member_ID), CONSTRAINT fk_Book_ID FOREIGN
KEY(Book_ID) REFERENCES book(Book_ID) );
```

❖ Reservation Table:

```
1 CREATE TABLE Reservation(
2   Member_ID varchar(50),
3   Book_ID varchar(50),
4   Reservation_date date,
5   CONSTRAINT fk_Member_ID1 FOREIGN KEY(Member_ID) REFERENCES member(Member_ID),
6   CONSTRAINT fk_Book_ID1 FOREIGN KEY(Book_ID) REFERENCES book(Book_ID)
7 );
```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.5232 seconds.)

```
CREATE TABLE Reservation( Member_ID varchar(50), Book_ID varchar(50), Reservation_date date, CONSTRAINT fk_Member_ID1
FOREIGN KEY(Member_ID) REFERENCES member(Member_ID), CONSTRAINT fk_Book_ID1 FOREIGN KEY(Book_ID) REFERENCES
book(Book_ID) );
```

## Insert into Table:

You are required to insert the values into the table after creating the table.

### ➤ Publisher Table:

```
1 INSERT INTO publisher VALUES
2 ('P01', 'Dio Brando', 'Pokhara', 'mudamudamuda@gmail.com', 9821373185),
3 ('P02', 'Joseph Joestar', 'Pokhara', 'ohhmygod@gmail.com', 9843132186),
4 ('P03', 'Jotaro Kujo', 'Pokhara', 'oraoraora@gmail.com', 9812150137),
5 ('P04', 'Josuke Higashikata', 'Pokhara', 'dorarara@gmail.com', 9838456734),
6 ('P05', 'Giorno Giovanna', 'Pokhara', 'ihaveadream@gmail.com', 9804679372),
7 ('P06', 'Prentice hall', 'Kathmandu', 'prenticehall@gmail.com', 9843167832);
```

✓ 6 rows inserted. (Query took 0.1860 seconds.)

```
INSERT INTO publisher VALUES ('P01', 'Dio Brando', 'Pokhara', 'mudamudamuda@gmail.com', 9821373185), ('P02', 'Joseph Joestar', 'Pokhara', 'ohhmygod@gmail.com', 9843132186), ('P03', 'Jotaro Kujo', 'Pokhara', 'oraoraora@gmail.com', 9812150137), ('P04', 'Josuke Higashikata', 'Pokhara', 'dorarara@gmail.com', 9838456734), ('P05', 'Giorno Giovanna', 'Pokhara', 'ihaveadream@gmail.com', 9804679372), ('P06', 'Prentice hall', 'Kathmandu', 'prenticehall@gmail.com', 9843167832);
```

Publisher_ID	Name	Address	Email_ID	Contact_no
P01	Dio Brando	Pokhara	mudamudamuda@gmail.com	9821373185
P02	Joseph Joestar	Pokhara	ohhmygod@gmail.com	9843132186
P03	Jotaro Kujo	Pokhara	oraoraora@gmail.com	9812150137
P04	Josuke Higashikata	Pokhara	dorarara@gmail.com	9838456734
P05	Giorno Giovanna	Pokhara	ihaveadream@gmail.com	9804679372
P06	Prentice hall	Kathmandu	prenticehall@gmail.com	9843167832

### ➤ Author Table:

```
1 INSERT INTO Author VALUES
2 ('A01','Ramez Elmasri','Kathmandu','9812456043'),
3 ('A02','C.J. Date','Kathmandu','9827454065'),
4 ('A03','Hirohiko Araki','Pokhara','9846790612'),
5 ('A04','Tatsuki Fujimoto','Pokhara','9804372724'),
6 ('A05','Eiichiro Oda','Pokhara','9838560378');
```

✓ 5 rows inserted. (Query took 0.3476 seconds.)

```
INSERT INTO Author VALUES ('A01','Ramez Elmasri','Kathmandu','9812456043'), ('A02','C.J. Date','Kathmandu','9827454065'), ('A03','Hirohiko Araki','Pokhara','9846790612'), ('A04','Tatsuki Fujimoto','Pokhara','9804372724'), ('A05','Eiichiro Oda','Pokhara','9838560378');
```

Author_ID	Name	Address	Contact_no
A01	Ramez Elmasri	Kathmandu	9812456043
A02	C.J. Date	Kathmandu	9827454065
A03	Hirohiko Araki	Pokhara	9846790612
A04	Tatsuki Fujimoto	Pokhara	9804372724
A05	Eiichiro Oda	Pokhara	9838560378

#### ➤ Book Table:

```

1 INSERT INTO book VALUES
2 ('B01','0-5540-2036-X','Introduction to Databases','Computing','P06','A02','2019-03-01','Yellow-tag','loaned out'),
3 ('B02','0-2495-9413-7','Biology','Science','P05','A03','2020-03-01','Green-tag','available'),
4 ('B03','0-5540-2036-X','Introduction to Databases','Computing','P06','A02','2019-03-01','Yellow-tag','available'),
5 ('B04','0-6161-9434-X','Introduction to C','Computing','P06','A01','2021-01-07','Green-tag','available'),
6 ('B05','0-6161-9434-X','Introduction to C','Computing','P06','A01','2021-01-07','Green-tag','loaned out'),
7 ('B06','0-2717-7834-2','Physics','Science','P03','A03','2020-05-21','Yellow-tag','available'),
8 ('B07','0-2495-9413-7','Biology','Science','P05','A03','2020-03-01','Green-tag','loaned out'),
9 ('B08','0-2495-9413-7','Introduction to Networking','Computing','P04','A04','2020-03-01','Green-tag','available'),
10 ('B09','0-3094-5662-2','Biology Project','Project Work','P05','A05','2019-01-01','Red-tag','not available'),
11 ('B10','0-1284-8631-7','System Analysis and Design','Computing','P05','A02','2019-06-01','Green-tag','loaned out'),
12 ('B11','0-2495-9413-7','Introduction to Networking','Computing','P04','A04','2020-03-01','Green-tag','loaned out'),
13 ('B12','0-8549-3165-1','Python Programming','Computing','P01','A03','2019-02-03','Green-tag','loaned out'),
14 ('B13','0-8549-3165-1','Python Programming','Computing','P01','A03','2019-02-03','Green-tag','loaned out'),
15 ('B14','0-8549-3165-1','Python Programming','Computing','P01','A03','2018-05-08','Green-tag','available'),
16 ('B15','0-2334-4303-7','Accounting','Management','P02','A01','2021-04-11','Green-tag','loaned out'),
17 ('B16','0-1378-9700-6','Marketing','Management','P05','A04','2020-01-03','Yellow-tag','loaned out');

```

✓ 16 rows inserted. (Query took 1.7249 seconds.)

```

INSERT INTO book VALUES ('B01','0-5540-2036-X','Introduction to Databases','Computing','P06','A02','2019-03-01','Yellow-tag','loaned out'), ('B02','0-2495-9413-7','Biology','Science','P05','A03','2020-03-01','Green-tag','available'), ('B03','0-5540-2036-X','Introduction to Databases','Computing','P06','A02','2019-03-01','Yellow-tag','available'), ('B04','0-6161-9434-X','Introduction to C','Computing','P06','A01','2021-01-07','Green-tag','available'), ('B05','0-6161-9434-X','Introduction to C','Computing','P06','A01','2021-01-07','Green-tag','loaned out'), ('B06','0-2717-7834-2','Physics','Science','P03','A03','2020-05-21','Yellow-tag','available'), ('B07','0-2495-9413-7','Biology','Science','P05','A03','2020-03-01','Green-tag','loaned out'), ('B08','0-2495-9413-7','Introduction to Networking','Computing','P04','A04','2020-03-01','Green-tag','available'), ('B09','0-3094-5662-2','Biology Project','Project Work','P05','A05','2019-01-01','Red-tag','not available'), ('B10','0-1284-8631-7','System Analysis and Design','Computing','P05','A02','2019-06-01','Green-tag','loaned out'), ('B11','0-2495-9413-7','Introduction to Networking','Computing','P04','A04','2020-03-01','Green-tag','loaned out'), ('B12','0-8549-3165-1','Python Programming','Computing','P01','A03','2019-02-03','Green-tag','loaned out'), ('B13','0-8549-3165-1','Python Programming','Computing','P01','A03','2019-02-03','Green-tag','loaned out'), ('B14','0-8549-3165-1','Python Programming','Computing','P01','A03','2018-05-08','Green-tag','available'), ('B15','0-2334-4303-7','Accounting','Management','P02','A01','2021-04-11','Green-tag','loaned out'), ('B16','0-1378-9700-6','Marketing','Management','P05','A04','2020-01-03','Yellow-tag','loaned out');

```

Book_ID	ISBN	Title	Field	Publisher_ID	Author_ID	Edition	Category	Status
B01	0-5540-2036-X	Introduction to Databases	Computing	P06	A02	2019-03-01	Yellow-tag	loaned out
B02	0-2495-9413-7	Biology	Science	P05	A03	2020-03-01	Green-tag	available
B03	0-5540-2036-X	Introduction to Databases	Computing	P06	A02	2019-03-01	Yellow-tag	available
B04	0-6161-9434-X	Introduction to C	Computing	P06	A01	2021-01-07	Green-tag	available
B05	0-6161-9434-X	Introduction to C	Computing	P06	A01	2021-01-07	Green-tag	loaned out
B06	0-2717-7834-2	Physics	Science	P03	A03	2020-05-21	Yellow-tag	available
B07	0-2495-9413-7	Biology	Science	P05	A03	2020-03-01	Green-tag	loaned out
B08	0-2495-9413-7	Introduction to Networking	Computing	P04	A04	2020-03-01	Green-tag	available
B09	0-3094-5662-2	Biology Project	Project Work	P05	A05	2019-01-01	Red-tag	not available
B10	0-1284-8631-7	System Analysis and Design	Computing	P05	A02	2019-06-01	Green-tag	loaned out
B11	0-2495-9413-7	Introduction to Networking	Computing	P04	A04	2020-03-01	Green-tag	loaned out
B12	0-8549-3165-1	Python Programming	Computing	P01	A03	2019-02-03	Green-tag	loaned out
B13	0-8549-3165-1	Python Programming	Computing	P01	A03	2019-02-03	Green-tag	loaned out
B14	0-8549-3165-1	Python Programming	Computing	P01	A03	2018-05-08	Green-tag	available
B15	0-2334-4303-7	Accounting	Management	P02	A01	2021-04-11	Green-tag	loaned out
B16	0-1378-9700-6	Marketing	Management	P05	A04	2020-01-03	Yellow-tag	loaned out

➤ Classification Value:

```

1 INSERT INTO classification VALUES
2 ('LR-01','Lecturer'),
3 ('SD-02','Student'),
4 ('SF-03','Staff');
```

✓ 3 rows inserted. (Query took 0.2968 seconds.)

```
INSERT INTO classification VALUES ('LR-01','Lecturer'), ('SD-02','Student'), ('SF-03','Staff');
```

Classify_ID	Classify_Name
LR-01	Lecturer
SD-02	Student
SF-03	Staff

➤ Member Value:

```

1 INSERT INTO member VALUES
2 ('MR01','Charolette Katakuri','IT','active','SD-02','mochidonuts57@gmail.com'),
3 ('MR02','Erza Scarlet','Arts','inactive','SD-02','titania_qof@gmail.com'),
4 ('MR03','Irina Jelavic','English','active','LR-01','vich_sensei@gmail.com'),
5 ('MR04','Shoto Todoroki','Science','active','SD-02','half_n_half@gmail.com'),
6 ('MR05','Lucy Heartfilia','English','active','SD-02','celestialimage10@gmail.com'),
7 ('MR06','Vinsmoke Reiju','IT','active','SD-02','poisonpink0000@gmail.com'),
8 ('MR07','Nico Robin','History','active','LR-01','missallsunday@gmail.com'),
9 ('MR08','Satoru Gojo','IT','inactive','LR-01','thestrongest@gmail.com'),
10 ('MR09','Shigeo Kageyama','Management','active','SD-02','mobpsycho100@gmail.com'),
11 ('MR10','Dr. Vegapunk','Science','active','LR-01','buzzfeedunsolved@gmail.com'),
12 ('MR11','Koro-sensei','Humanities','inactive','LR-01','mach20octopus@gmail.com'),
13 ('MR12','Silvers Rayleigh','Management','inactive','LR-01','dark_king@gmail.com'),
14 ('MR13','Laxus Dreyar','Head-Librarian','active','SF-03','2ndgenfairylaw@gmail.com'),
15 ('MR14','Yami Sukehiro','Head-Librarian','inactive','SF-03','blackbullscaptain@gmail.com'),
16 ('MR15','Levy McGarden','Assistant Librarian','active','SF-03','ironhead@gmail.com'),
17 ('MR16','Amajiki','Assistant Librarian','active','SF-03','buffama@gmail.com'),
18 ('MR17','Jellal Fernandez','Assistant Librarian','inactive','SF-03','justsomeguywithoutamustache@gmail.com'),
19 ('MR18','Denji','Arts','inactive','SD-02','chainsawheart@gmail.com'),
20 ('MR19','Aki Hayakawa','Humanities','inactive','SD-02','snowballgun@gmail.com');

```

✓ 19 rows inserted. (Query took 0.5654 seconds.)

```

INSERT INTO member VALUES ('MR01','Charolette Katakuri','IT','active','SD-02','mochidonuts57@gmail.com'), ('MR02','Erza Scarlet','Arts','inactive','SD-02','titania_qof@gmail.com'), ('MR03','Irina Jelavic','English','active','LR-01','vich_sensei@gmail.com'), ('MR04','Shoto Todoroki','Science','active','SD-02','half_n_half@gmail.com'), ('MR05','Lucy Heartfilia','English','active','SD-02','celestialimage10@gmail.com'), ('MR06','Vinsmoke Reiju','IT','active','SD-02','poisonpink0000@gmail.com'), ('MR07','Nico Robin','History','active','LR-01','missallsunday@gmail.com'), ('MR08','Satoru Gojo','IT','inactive','LR-01','thestrongest@gmail.com'), ('MR09','Shigeo Kageyama','Management','active','SD-02','mobpsycho100@gmail.com'), ('MR10','Dr. Vegapunk','Science','active','LR-01','buzzfeedunsolved@gmail.com')

```

Member_ID	Name	Department	Status	Classify_ID	Email_ID
MR01	Charolette Katakuri	IT	active	SD-02	mochidonuts57@gmail.com
MR02	Erza Scarlet	Arts	inactive	SD-02	titania_qof@gmail.com
MR03	Irina Jelavic	English	active	LR-01	vich_sensei@gmail.com
MR04	Shoto Todoroki	Science	active	SD-02	half_n_half@gmail.com
MR05	Lucy Heartfilia	English	active	SD-02	celestialimage10@gmail.com
MR06	Vinsmoke Reiju	IT	active	SD-02	poisonpink0000@gmail.com
MR07	Nico Robin	History	active	LR-01	missallsunday@gmail.com
MR08	Satoru Gojo	IT	inactive	LR-01	thestrongest@gmail.com
MR09	Shigeo Kageyama	Management	active	SD-02	mobpsycho100@gmail.com
MR10	Dr. Vegapunk	Science	active	LR-01	buzzfeedunsolved@gmail.com
MR11	Koro-sensei	Humanities	inactive	LR-01	mach20octopus@gmail.com
MR12	Silvers Rayleigh	Management	inactive	LR-01	dark_king@gmail.com
MR13	Laxus Dreyar	Head-Librarian	active	SF-03	2ndgenfairylaw@gmail.com
MR14	Yami Sukehiro	Head-Librarian	inactive	SF-03	blackbullscaptain@gmail.com
MR15	Levy McGarden	Assistant Librarian	active	SF-03	ironhead@gmail.com
MR16	Amajiki	Assistant Librarian	active	SF-03	buffama@gmail.com
MR17	Jellal Fernandez	Assistant Librarian	inactive	SF-03	justsomeguywithoutamustache@gmail.com
MR18	Denji	Arts	inactive	SD-02	chainsawheart@gmail.com
MR19	Aki Hayakawa	Humanities	inactive	SD-02	snowballgun@gmail.com

➤ Transaction Value:

```

1 INSERT INTO transaction VALUES
2 ('TI01', 'MR01', 'B10', "2019-07-08", '2019-07-19', '2019-07-24', 50),
3 ('TI02', 'MR10', 'B07', "2021-03-16", '2021-04-16', '2021-04-10', 0),
4 ('TI03', 'MR01', 'B05', "2021-04-05", '2021-04-20', '2021-04-18', 0),
5 ('TI04', 'MR04', 'B02', "2020-03-19", '2022-03-20', '2022-03-25', 50),
6 ('TI05', 'MR01', 'B01', "2019-03-19", '2019-03-28', '2019-03-25', 0),
7 ('TI06', 'MR01', 'B11', "2020-04-09", '2020-04-19', '2020-04-29', 100),
8 ('TI07', 'MR07', 'B15', "2021-04-23", '2020-05-23', '2021-05-29', 120),
9 ('TI08', 'MR01', 'B13', "2021-12-10", '2021-12-26', NULL, NULL),
10 ('TI09', 'MR06', 'B14', "2022-02-07", '2022-03-07', '2022-03-25', 360),
11 ('TI10', 'MR06', 'B12', "2022-01-03", '2022-01-19', NULL, NULL);

```

✓ 10 rows inserted. (Query took 0.5636 seconds.)

```

INSERT INTO transaction VALUES ('TI01', 'MR01', 'B10', "2019-07-08", '2019-07-19', '2019-07-24', 50),
('TI02', 'MR10', 'B07', "2021-03-16", '2021-04-16', '2021-04-10', 0), ('TI03', 'MR01', 'B05', "2021-04-05", '2021-04-20', '2021-04-18', 0), ('TI04', 'MR04', 'B02', "2020-03-19", '2022-03-20', '2022-03-25', 50), ('TI05', 'MR01', 'B01', "2019-03-19", '2019-03-28', '2019-03-25', 0), ('TI06', 'MR01', 'B11', "2020-04-09", '2020-04-19', '2020-04-29', 100), ('TI07', 'MR07', 'B15', "2021-04-23", '2020-05-23', '2021-05-29', 120), ('TI08', 'MR01', 'B13', "2021-12-10", '2021-12-26', NULL, NULL), ('TI09',

```

Transaction_ID	Member_ID	Book_ID	Borrow_date	Return_date	Actual_Return_date	Fine
TI01	MR01	B10	2019-07-08	2019-07-19	2019-07-24	50
TI02	MR10	B07	2021-03-16	2021-04-16	2021-04-10	0
TI03	MR01	B05	2021-04-05	2021-04-20	2021-04-18	0
TI04	MR04	B02	2020-03-19	2022-03-20	2022-03-25	50
TI05	MR01	B01	2019-03-19	2019-03-28	2019-03-25	0
TI06	MR01	B11	2020-04-09	2020-04-19	2020-04-29	100
TI07	MR07	B15	2021-04-23	2020-05-23	2021-05-29	120
TI08	MR01	B13	2021-12-10	2021-12-26	NULL	NULL
TI09	MR06	B14	2022-02-07	2022-03-07	2022-03-25	360
TI10	MR06	B12	2022-01-03	2022-01-19	NULL	NULL

➤ Reservation Value:

```
1 INSERT INTO Reservation VALUES  
2 ('MR06','B13', "2022-04-20"),  
3 ('MR03','B03', "2022-03-25"),  
4 ('MR05','B06', "2022-03-10"),  
5 ('MR01','B07', "2022-04-05"),  
6 ('MR09','B16', "2022-04-10"),  
7 ('MR07','B02', "2022-03-17"),  
8 ('MR16','B05', "2022-04-06"),  
9 ('MR15','B14', "2022-05-13");
```

✓ 8 rows inserted. (Query took 0.2951 seconds.)

```
INSERT INTO Reservation VALUES ('MR06','B13', "2022-04-20"), ('MR03','B03', "2022-03-25"),  
('MR05','B06', "2022-03-10"), ('MR01','B07', "2022-04-05"), ('MR09','B16', "2022-04-10"),  
('MR07','B02', "2022-03-17"), ('MR16','B05', "2022-04-06"), ('MR15','B14', "2022-05-13");
```

Member_ID	Book_ID	Reservation_date
M06	B13	2022-04-20
M03	B03	2022-03-25
M05	B06	2022-03-10
M01	B07	2022-04-05
M09	B16	2022-04-10
M07	B02	2022-03-17
MR06	B13	2022-04-20
MR03	B03	2022-03-25
MR05	B06	2022-03-10
MR01	B07	2022-04-05
MR09	B16	2022-04-10
MR07	B02	2022-03-17
MR16	B05	2022-04-06
MR15	B14	2022-05-13

## SQL-Data Manipulation Language (DML)

### Queries:

#### a. 1<sup>st</sup> Query:

```
1 SELECT member.Name, SUM(CASE WHEN Fine is null THEN 1 ELSE 0 END)
2 AS 'Currently_ Loaned_books',
3 Count(*) Total_no_of_books_borrowed
4 FROM transaction
5 INNER JOIN member
6 ON transaction.Member_ID = member.Member_ID
7 GROUP BY member.Name HAVING COUNT(*) >= 2
8 ORDER BY member.Name ASC;
```

✓ Showing rows 0 - 1 (2 total, Query took 0.0068 seconds.) [Name: CHAROLETTE KATAKURI... - VINSMOKE REIJU...]

```
SELECT member.Name, SUM(CASE WHEN Fine is null THEN 1 ELSE 0 END) AS 'Currently_ Loaned_books',
Count(*) Total_no_of_books_borrowed FROM transaction INNER JOIN member ON transaction.Member_ID =
member.Member_ID GROUP BY member.Name HAVING COUNT(*) >= 2 ORDER BY member.Name ASC;
```

Name	Currently_ Loaned_books	Total_no_of_books_borrowed
Charolette Katakuri	1	5
Vinsmoke Reiju	1	2

#### b. 2<sup>nd</sup> Query:

```
1 SELECT Category as Book_Category , COUNT(*) as Total_no_of_books FROM book
2 GROUP by category
3 ORDER BY COUNT(*) DESC;
```

✓ Showing rows 0 - 2 (3 total, Query took 0.0039 seconds.)

```
SELECT Category as Book_Category , COUNT(*) as Total_no_of_books FROM book GROUP by category ORDER BY
COUNT(*) DESC;
```

Book_Category	Total_no_of_books
Green-tag	11
Yellow-tag	4
Red-tag	1

c. 3<sup>rd</sup> Query:

```
1 SELECT Title as Book_Title ,publisher.Name as Publisher_Name FROM Book
2 INNER JOIN publisher
3 ON Book.Publisher_ID = publisher.Publisher_ID
4 WHERE book.Author_ID = (SELECT Author_ID from author
5 WHERE Name ='Thomas Connolly' OR Name = 'Ramez Elmasri');
```

✓ Showing rows 0 - 2 (3 total, Query took 0.0106 seconds.)

```
SELECT Title as Book_Title ,publisher.Name as Publisher_Name FROM Book INNER JOIN publisher ON
Book.Publisher_ID = publisher.Publisher_ID WHERE book.Author_ID = (SELECT Author_ID from author WHERE
Name ='Thomas Connolly' OR Name = 'Ramez Elmasri');
```

Book_Title	Publisher_Name
Introduction to C	Prentice hall
Introduction to C	Prentice hall
Accounting	Joseph Joestar

d. 4<sup>th</sup> Query:

```
1 SELECT member.Member_ID, member.Name, book.Book_ID,
2 book.Title as Book_Title, reservation.Reservation_date,book.Status
3 FROM reservation
4 INNER JOIN member
5 ON reservation.Member_ID = member.Member_ID
6 INNER JOIN book
7 ON reservation.Book_ID = book.Book_ID;
```

✓ Showing rows 0 - 7 (8 total, Query took 0.0074 seconds.)

```
SELECT member.Member_ID, member.Name, book.Book_ID, book.Title as Book_Title,
reservation.Reservation_date,book.Status FROM reservation INNER JOIN member ON reservation.Member_ID
= member.Member_ID INNER JOIN book ON reservation.Book_ID = book.Book_ID;
```

Member_ID	Name	Book_ID	Book_Title	Reservation_date	Status
MR06	Vinsmoke Reiju	B13	Python Programming	2022-04-20	loaned out
MR03	Irina Jelavic	B03	Introduction to Databases	2022-03-25	available
MR05	Lucy Heartfilia	B06	Physics	2022-03-10	available
MR01	Charolette Katakuri	B07	Biology	2022-04-05	loaned out
MR09	Shigeo Kageyama	B16	Marketing	2022-04-10	loaned out
MR07	Nico Robin	B02	Biology	2022-03-17	available
MR16	Amajiki	B05	Introduction to C	2022-04-06	loaned out
MR15	Levy McGarden	B14	Python Programming	2022-05-13	available

e. 5<sup>th</sup> Query:

```
1 SELECT member.Department as Department, Classification.Classify_Name as Classification,
2 COUNT(*) as Total_no_of_books_borrowed
3 FROM transaction
4 INNER JOIN book
5 ON transaction.Book_ID = book.Book_ID
6 INNER JOIN member
7 ON transaction.Member_ID = member.Member_ID
8 INNER JOIN classification
9 ON member.Classify_ID = classification.Classify_ID
10 GROUP BY member.Department;
```

✓ Showing rows 0 - 2 (3 total, Query took 0.0057 seconds.)

```
SELECT member.Department as Department, Classification.Classify_Name as Classification, COUNT(*) as
Total_no_of_books_borrowed FROM transaction INNER JOIN book ON transaction.Book_ID = book.Book_ID
INNER JOIN member ON transaction.Member_ID = member.Member_ID INNER JOIN classification ON
member.Classify_ID = classification.Classify_ID GROUP BY member.Department;
```

Department	Classification	Total_no_of_books_borrowed
History	Lecturer	1
IT	Student	7
Science	Lecturer	2

f. 6<sup>th</sup> Query:

```
1 SELECT member.*, book.Title as Book_Title FROM transaction
2 INNER JOIN member
3 ON transaction.Member_ID = member.Member_ID
4 INNER JOIN book
5 ON transaction.Book_ID = book.Book_ID
6 WHERE
7 book.Author_ID = (SELECT author_ID FROM author
8 WHERE Name = 'C.J. Date');
```

✓ Showing rows 0 - 1 (2 total, Query took 0.0083 seconds.)

```
SELECT member.*, book.Title as Book_Title FROM transaction INNER JOIN member ON transaction.Member_ID
= member.Member_ID INNER JOIN book ON transaction.Book_ID = book.Book_ID WHERE book.Author_ID =
(SELECT author_ID FROM author WHERE Name = 'C.J. Date');
```

Member_ID	Name	Department	Status	Classify_ID	Email_ID	Book_Title
MR01	Charolette Katakuri	IT	active	SD-02	mochidonuts57@gmail.com	Introduction to Databases
MR01	Charolette Katakuri	IT	active	SD-02	mochidonuts57@gmail.com	System Analysis and Design

g. 7<sup>th</sup> Query:

```

1 SELECT title as Book_Title, Edition as Published_date
2 FROM book WHERE Field = 'Computing'
3 AND
4 Publisher_ID = (SELECT Publisher_ID
5 FROM Publisher WHERE Name = 'Prentice Hall')
6 AND
7 YEAR(Edition) = '2019';

```

✓ Showing rows 0 - 1 (2 total, Query took 0.0059 seconds.)

```
SELECT title as Book_Title, Edition as Published_date FROM book WHERE Field = 'Computing' AND Publisher_ID = (SELECT Publisher_ID FROM Publisher WHERE Name = 'Prentice Hall') AND YEAR(Edition) = '2019';
```

Book_Title	Published_date
Introduction to Databases	2019-03-01
Introduction to Databases	2019-03-01

h. 8<sup>th</sup> Query:

```

1 SELECT * from member
2 WHERE Status = 'Inactive'
3 ORDER by department, name;

```

✓ Showing rows 0 - 7 (8 total, Query took 0.0043 seconds.)

```
SELECT * from member WHERE Status = 'Inactive' ORDER by department, name;
```

Member_ID	Name	Department	Status	Classify_ID	Email_ID
MR18	Denji	Arts	inactive	SD-02	chainsawheart@gmail.com
MR02	Erza Scarlet	Arts	inactive	SD-02	titania_qof@gmail.com
MR17	Jellal Fernandez	Assistant Librarian	inactive	SF-03	justsomeguywithoutamustache@gmail.com
MR14	Yami Sukehiro	Head-Librarian	inactive	SF-03	blackbulscaptain@gmail.com
MR19	Aki Hayakawa	Humanities	inactive	SD-02	snowballgun@gmail.com
MR11	Koro-sensei	Humanities	inactive	LR-01	mach20octopus@gmail.com
MR08	Satoru Gojo	IT	inactive	LR-01	thestrongest@gmail.com
MR12	Silvers Rayleigh	Management	inactive	LR-01	dark_king@gmail.com

i. 9<sup>th</sup> Query:

```
1 SELECT Member.Member_ID, Member.Name, book.Book_ID, book.Title, Fine
2 FROM transaction
3 INNER JOIN Member
4 ON transaction.Member_ID = Member.Member_ID
5 INNER JOIN book
6 ON transaction.Book_ID = book.Book_ID
7 WHERE transaction.Actual_Return_date > transaction.Return_Date;
```

✓ Showing rows 0 - 4 (5 total, Query took 0.0092 seconds.)

```
SELECT Member.Member_ID, Member.Name, book.Book_ID, book.Title, Fine FROM transaction INNER JOIN
Member ON transaction.Member_ID = Member.Member_ID INNER JOIN book ON transaction.Book_ID =
book.Book_ID WHERE transaction.Actual_Return_date > transaction.Return_Date;
```

Member_ID	Name	Book_ID	Title	Fine
MR01	Charolette Katakuri	B10	System Analysis and Design	50
MR04	Shoto Todoroki	B02	Biology	50
MR01	Charolette Katakuri	B11	Introduction to Networking	100
MR07	Nico Robin	B15	Accounting	120
MR06	Vinsmoke Reiju	B14	Python Programming	360

j. 10<sup>th</sup> Query:

```
1 SELECT member.Member_ID, member.Name, COUNT(*) as Total_no_of_books_borrowed
2 FROM transaction
3 INNER JOIN member
4 ON transaction.Member_ID = member.Member_ID
5 GROUP BY member.Name HAVING COUNT(*) >= 5;
```

Your SQL query has been executed successfully.

```
SELECT member.Member_ID, member.Name, COUNT(*) as Total_no_of_books_borrowed FROM transaction INNER
JOIN member ON transaction.Member_ID = member.Member_ID GROUP BY member.Name HAVING COUNT(*) >= 5;
```

Member_ID	Name	Total_no_of_books_borrowed
MR01	Charolette Katakuri	5

k. 11<sup>th</sup> Query:

```
1 SELECT publisher.Name as Publisher_Name, Book.Title as Book_Title, Category
2 FROM book
3 INNER JOIN publisher
4 ON book.Publisher_ID = publisher.Publisher_ID
5 WHERE
6 book.Category = 'Red-tag' OR book.Category= 'Yellow-tag'
7 ORDER BY publisher.Name;
```

✓ Showing rows 0 - 4 (5 total, Query took 0.0071 seconds.)

```
SELECT publisher.Name as Publisher_Name, Book.Title as Book_Title, Category FROM book INNER JOIN
publisher ON book.Publisher_ID = publisher.Publisher_ID WHERE book.Category = 'Red-tag' OR
book.Category= 'Yellow-tag' ORDER BY publisher.Name;
```

Publisher_Name	Book_Title	Category
Giorno Giovanna	Biology Project	Red-tag
Giorno Giovanna	Marketing	Yellow-tag
Jotaro Kujo	Physics	Yellow-tag
Prentice hall	Introduction to Databases	Yellow-tag
Prentice hall	Introduction to Databases	Yellow-tag

I. 12<sup>th</sup> Query:

```

1 SELECT member.Member_ID, member.Name, book.Book_ID, book.Title,
2 publisher.Name as Publisher_Name
3 FROM transaction
4 INNER JOIN member
5 ON transaction.Member_ID = member.Member_ID
6 INNER JOIN book
7 ON transaction.Book_ID = book.Book_ID
8 INNER JOIN Publisher
9 ON book.Publisher_ID = Publisher.Publisher_ID
10 WHERE book.Title like '%database%';

```

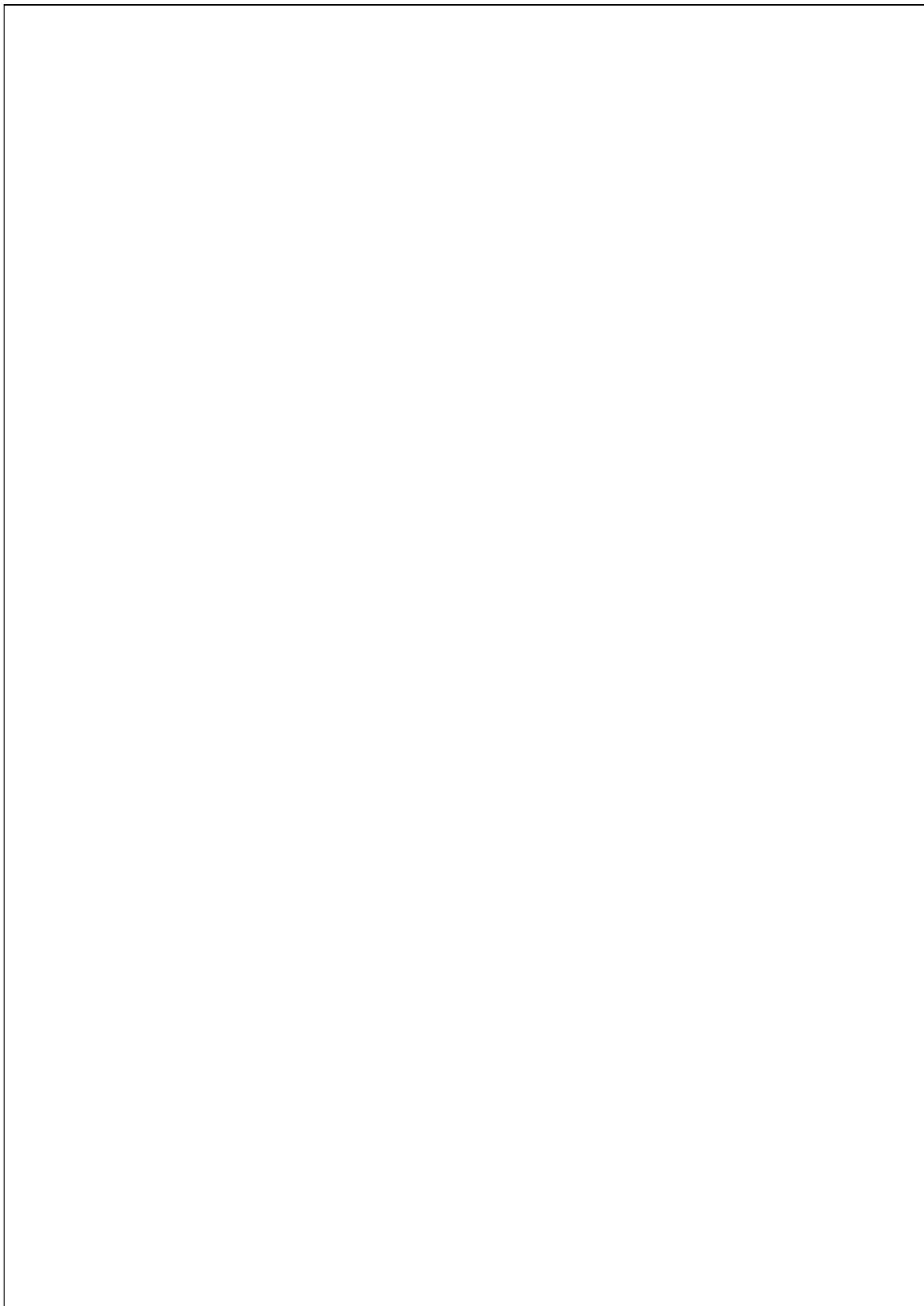
✓ Showing rows 0 - 0 (1 total, Query took 0.0106 seconds.)

```

SELECT member.Member_ID, member.Name, book.Book_ID, book.Title, publisher.Name as Publisher_Name FROM
transaction INNER JOIN member ON transaction.Member_ID = member.Member_ID INNER JOIN book ON
transaction.Book_ID = book.Book_ID INNER JOIN Publisher ON book.Publisher_ID = Publisher.Publisher_ID
WHERE book.Title like '%database%';

```

Member_ID	Name	Book_ID	Title	Publisher_Name
MR01	Charolette Katakuri	B01	Introduction to Databases	Prentice hall



# NPI000172, CT042-3-1 Introduction To Database - (Individual Component 3)

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