

DATABASE MANAGEMENT SYSTEM LABORATORY MANUAL

B.M.S.COLLEGE OF ENGINEERING, BANGALORE-19

(Autonomous College under VTU)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

19CS4PCDBM

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PROGRAM 1: INSURANCE DATABASE

Consider the Insurance database given below. The primary keys are underlined and the data types are specified.

PERSON (driver-id #: String, name: String, address: String)

CAR (Regno: String, model: String, year: int)

ACCIDENT (report-number: int, date: date, location: String)

OWNS (driver-id #: String, Regno: String)

PARTICIPATED (driver-id: String, Regno: String, report-number: int, damage-amount: int)

DEPARTMENT OF CSE

- i. Create the above tables by properly specifying the primary keys and the foreign keys.

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.9490 seconds.)

```
create table person( driver_id varchar(10) PRIMARY KEY, name varchar(20), address varchar(30) )
```

✓ MySQL returned an empty result set (i.e. zero rows).
(Query took 0.3010 seconds.)

```
create table car( regno varchar(10) PRIMARY KEY, model  
varchar(20), year int )
```

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

✓ MySQL returned an empty result set (i.e. zero rows).
(Query took 0.2290 seconds.)

```
create table accident( report_number int PRIMARY KEY,  
dateAcc date, location varchar(30) )
```

✓ MySQL returned an empty result set (i.e. zero rows).
(Query took 1.4060 seconds.)

```
create table owns( driver_id varchar(10), regno  
varchar(10), FOREIGN KEY(driver_id) REFERENCES  
person(driver_id) ON UPDATE CASCADE ON DELETE SET null,  
FOREIGN KEY(regno) REFERENCES car(regno) ON UPDATE CASCADE  
ON DELETE SET null )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.3880 seconds.)

```
create table participated( driver_id varchar(10), regno varchar(10), report_number int, damage_amount int, FOREIGN key(driver_id) REFERENCES person(driver_id) ON UPDATE CASCADE  
ON DELETE SET null, FOREIGN key(regno) REFERENCES car(regno) ON UPDATE CASCADE ON DELETE SET null, FOREIGN key(report_number) REFERENCES accident(report_number) ON UPDATE  
CASCADE ON DELETE SET null )
```

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

Output:

Table	Action	Rows	Type	Collation	Size	Overhead
accident	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
car	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
owns	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
participated	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	64.0 KiB	-
person	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
5 tables	Sum	0	InnoDB	utf8mb4_general_ci	160.0 KiB	0 B

ii. Enter at least five tuples for each relation.

✓ 1 row inserted. (Query took 0.1500 seconds.)

```
INSERT INTO `person`(`driver_id`, `name`, `address`) VALUES ('A1','Raj','R.T.Nagar, Bengaluru')
```

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

✓ 1 row inserted. (Query took 0.2140 seconds.)

```
INSERT INTO `person`(`driver_id`, `name`, `address`) VALUES ('A2','Raja','R.K.Nagar, Bengaluru')
```

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

✓ 1 row inserted. (Query took 0.1620 seconds.)

```
INSERT INTO `person`(`driver_id`, `name`, `address`) VALUES ('A3','Shash','T.M.Nagar, Bengaluru')
```

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

✓ 1 row inserted. (Query took 0.0540 seconds.)

```
INSERT INTO `person`(`driver_id`, `name`, `address`) VALUES ('A4','Paris','Shivajinagar, Bengaluru')
```

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

✓ 1 row inserted. (Query took 0.0450 seconds.)

```
INSERT INTO `person`(`driver_id`, `name`, `address`) VALUES ('A5','Tokyo','Basvangudi, Bengaluru')
```

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

← ↑ →

				driver_id	name	address
<input type="checkbox"/>	 Edit	 Copy	 Delete	A1	Raj	R.T.Nagar, Bengaluru
<input type="checkbox"/>	 Edit	 Copy	 Delete	A2	Raja	R.K.Nagar, Bengaluru
<input type="checkbox"/>	 Edit	 Copy	 Delete	A3	Shash	T.M.Nagar, Bengaluru
<input type="checkbox"/>	 Edit	 Copy	 Delete	A4	Paris	Shivajinagar, Bengaluru
<input type="checkbox"/>	 Edit	 Copy	 Delete	A5	Tokyo	Basvangudi, Bengaluru

↑ Check all With selected:  Edit  Copy  Delete  Export

✓ 1 row inserted. (Query took 0.0890 seconds.)

```
INSERT INTO `car`(`regno`, `model`, `year`) VALUES ('123','A class',2018)
```

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

✓ 1 row inserted. (Query took 0.1160 seconds.)

```
INSERT INTO `car`(`regno`, `model`, `year`) VALUES ('124','B class',2017)
```

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

✓ 1 row inserted. (Query took 0.0370 seconds.)

```
INSERT INTO `car`(`regno`, `model`, `year`) VALUES ('125','C class',2020)
```

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

✓ 1 row inserted. (Query took 0.1090 seconds.)

```
INSERT INTO `car`(`regno`, `model`, `year`) VALUES ('126','D class',2021)
```

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

✓ 1 row inserted. (Query took 0.0400 seconds.)

```
INSERT INTO `car`(`regno`, `model`, `year`) VALUES ('127','E class',2019)
```

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

← ↑ →

				regno	model	year
<input type="checkbox"/>	 Edit	 Copy	 Delete	123	A class	2018
<input type="checkbox"/>	 Edit	 Copy	 Delete	124	B class	2017
<input type="checkbox"/>	 Edit	 Copy	 Delete	125	C class	2020
<input type="checkbox"/>	 Edit	 Copy	 Delete	126	D class	2021
<input type="checkbox"/>	 Edit	 Copy	 Delete	127	E class	2019

✓ 1 row inserted. (Query took 0.1400 seconds.)

```
INSERT INTO `accident`(`report_number`, `dateAcc`, `location`) VALUES (1,'2021-01-10','Hebbal')
```

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

✓ 1 row inserted. (Query took 0.0920 seconds.)

```
INSERT INTO `accident`(`report_number`, `dateAcc`, `location`) VALUES (2,'2021-02-19','R.T.Nagar')
```

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

✓ 1 row inserted. (Query took 0.0410 seconds.)

```
INSERT INTO `accident`(`report_number`, `dateAcc`, `location`) VALUES (3,'2021-03-13','Yelahanka')
```

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

✓ 1 row inserted. (Query took 0.0400 seconds.)

```
INSERT INTO `accident`(`report_number`, `dateAcc`, `location`) VALUES (4,'2021-04-01','Basvangudi')
```

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

✓ 1 row inserted. (Query took 0.0770 seconds.)

```
INSERT INTO `accident`(`report_number`, `dateAcc`, `location`) VALUES (5,'2021-04-09','K.R.Puram')
```

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

✓ 1 row inserted. (Query took 0.0560 seconds.)

```
INSERT INTO `accident`(`report_number`, `dateAcc`, `location`) VALUES (12,'2021-01-01','M.G.Road')
```

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

+ Options

← T →

				report_number	dateAcc	location
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	2021-01-10	Hebbal
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	2021-02-19	R.T.Nagar
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	2021-03-13	Yelahanka
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	2021-04-01	Basvangudi
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	2021-04-09	K.R.Puram
<input type="checkbox"/>	 Edit	 Copy	 Delete	12	2021-01-01	M.G.Road



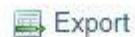
Check all

With selected:

 Edit

 Copy

 Delete

 Export

 1 row inserted. (Query took 0.1140 seconds.)

```
INSERT INTO `owns`(`driver_id`, `regno`) VALUES ('A4','126')
```

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

 1 row inserted. (Query took 0.1450 seconds.)

```
INSERT INTO `owns`(`driver_id`, `regno`) VALUES ('A3','124')
```

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

 1 row inserted. (Query took 0.1830 seconds.)

```
INSERT INTO `owns`(`driver_id`, `regno`) VALUES ('A1','127')
```

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

 1 row inserted. (Query took 0.0630 seconds.)

```
INSERT INTO `owns`(`driver_id`, `regno`) VALUES ('A5','123')
```

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

 1 row inserted. (Query took 0.0360 seconds.)

```
INSERT INTO `owns`(`driver_id`, `regno`) VALUES ('A2','125')
```

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

+ Options

driver_id

A4

A3

A1

A5

A2

regno

126

124

127

123

125

 1 row inserted. (Query took 0.0580 seconds.)

```
INSERT INTO `participated`(`driver_id`, `regno`, `report_number`, `damage_amount`) VALUES ('A4','126',2,10000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0730 seconds.)

```
INSERT INTO `participated`(`driver_id`, `regno`, `report_number`, `damage_amount`) VALUES ('A3','124',1,15000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0680 seconds.)

```
INSERT INTO `participated`(`driver_id`, `regno`, `report_number`, `damage_amount`) VALUES ('A1','127',3,5000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0410 seconds.)

```
INSERT INTO `participated`(`driver_id`, `regno`, `report_number`, `damage_amount`) VALUES ('A5','123',4,50000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.1480 seconds.)

```
INSERT INTO `participated`(`driver_id`, `regno`, `report_number`, `damage_amount`) VALUES ('A2','125',5,19812)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

+ Options

driver_id	regno	report_number	damage_amount
A4	126	2	10000
A3	124	1	15000
A1	127	3	5000
A5	123	4	50000
A2	125	5	19812
A1	127	12	20000

iii.Demonstrate how you

- a.Update the damage amount for the car with a specific Regno in the accident with report number 12 to 25000.

✓ 1 row affected. (Query took 0.0710 seconds.)

```
UPDATE participated set damage_amount=25000 where report_number=12 and regno=127
```

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

+ Options

driver_id	regno	report_number	damage_amount
A4	126	2	10000
A3	124	1	15000
A1	127	3	5000
A5	123	4	50000
A2	125	5	19812
A1	127	12	25000

b) Add a new accident to the database.

✓ 1 row inserted. (Query took 0.1510 seconds.)

```
INSERT INTO `accident`(`report_number`, `dateAcc`, `location`) VALUES (9,'2021-02-02','BEL Road')
```

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

+ Options

				report_number	dateAcc	location
<input type="checkbox"/>				1	2021-01-10	Hebbal
<input type="checkbox"/>				2	2021-02-19	R.T.Nagar
<input type="checkbox"/>				3	2021-03-13	Yelahanka
<input type="checkbox"/>				4	2021-04-01	Basvangudi
<input type="checkbox"/>				5	2021-04-09	K.R.Puram
<input type="checkbox"/>				9	2021-02-02	BEL Road
<input type="checkbox"/>				12	2021-01-01	M.G.Road

Check all With selected:

iv.Find the total number of people who owned cars that involved in accidents in 2008.

Showing rows 0 - 0 (1 total, Query took 0.0880 seconds.)

```
select count(distinct driver_id) from participated a, accident b where a.report_number=b.report_number and b.dateAcc like '2008%'
```

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

Show all

Number of rows:

25

Filter rows:

Search this table

+ Options

count(distinct driver_id)

5

Show all

Number of rows:

25

Filter rows:

Search this table

v. Find the number of accidents in which cars belonging to a specific model were involved.

Showing rows 0 - 0 (1 total, Query took 0.0050 seconds.)

```
select count(driver_id) from participated p, car c where p.regno=c.regno and model='E Class'
```

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

Show all

Number of rows: 25 ▾

Filter rows: Search this table

+ Options

count(driver_id)

2

Show all

Number of rows: 25 ▾

Filter rows: Search this table

PROGRAM 2. BANKING ENTERPRISE DATABASE

Consider the following database for a banking enterprise.

BRANCH (branch-name: String, branch-city: String, assets: real)

ACCOUNTS (accno: int, branch-name: String, balance: real)

DEPOSITOR (customer-name: String, customer-street: String, customer-city: String)

LOAN (loan-number: int, branch-name: String, amount: real)

BORROWER (customer-name: String, loan-number: int)

- i. Create the above tables by properly specifying the primary keys and the foreign keys.

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0110 seconds.)

```
create database bank
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0000 seconds.)

```
use bank
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2620 seconds.)

```
create table branch( branch_name varchar (20) PRIMARY KEY, branch_city varchar(20), assets real)
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1630 seconds.)

```
create table accounts( accno int PRIMARY KEY, branch_name varchar(20), balance real, FOREIGN KEY (branch_name) REFERENCES branch(branch_name) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1620 seconds.)

```
create table depositor( customer_name varchar(20), customer_street varchar(20), customer_city varchar(20), accno int, FOREIGN KEY(accno) REFERENCES accounts(accno) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2140 seconds.)

```
CREATE table loan( loan_number int PRIMARY key, branch_name varchar (20), amount real, FOREIGN KEY (branch_name) REFERENCES branch(branch_name) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2750 seconds.)

```
create table borrower( customer_name varchar(20), loan_number int Primary KEY, FOREIGN KEY(loan_number) REFERENCES loan(loan_number) )
```

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

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> accounts	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
<input type="checkbox"/> borrower	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
<input type="checkbox"/> branch	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> depositor	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> loan	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
5 tables	Sum				144.0 KiB	0 B

Check all

ii. Enter at least five tuples for each relation.

✓ 1 row inserted. (Query took 0.4440 seconds.)

```
INSERT INTO `branch`(`branch_name`, `branch_city`, `assets`) VALUES ('Hebbal','Bengaluru',178901222.12)
```

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

✓ 1 row inserted. (Query took 0.0810 seconds.)

```
INSERT INTO `branch`(`branch_name`, `branch_city`, `assets`) VALUES ('M.G.Road','Mumbai',278901222.12)
```

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

✓ 1 row inserted. (Query took 0.3490 seconds.)

```
INSERT INTO `branch`(`branch_name`, `branch_city`, `assets`) VALUES ('Chandni Chowk','New Delhi',291901222.12)
```

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

✓ 1 row inserted. (Query took 0.0840 seconds.)

```
INSERT INTO `branch`(`branch_name`, `branch_city`, `assets`) VALUES ('Bull Temple Road','Bengaluru',218901281.927)
```

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

✓ 1 row inserted. (Query took 0.0540 seconds.)

```
INSERT INTO `branch`(`branch_name`, `branch_city`, `assets`) VALUES ('Sector 17','Chandigarh',8192901222.121)
```

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

				branch_name	branch_city	assets
	 Edit	 Copy	 Delete	Bull Temple Road	Bengaluru	218901281.927
	 Edit	 Copy	 Delete	Chandni Chowk	New Delhi	291901222.12
	 Edit	 Copy	 Delete	Hebbal	Bengaluru	178901222.12
	 Edit	 Copy	 Delete	M.G.Road	Mumbai	278901222.12
	 Edit	 Copy	 Delete	Sector 17	Chandigarh	8192901222.121

 1 row inserted. (Query took 0.0990 seconds.)

```
INSERT INTO `accounts`(`accno`, `branch_name`, `balance`) VALUES (1,'Sector 17',10000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0580 seconds.)

```
INSERT INTO `accounts`(`accno`, `branch_name`, `balance`) VALUES (2,'Bull Temple Road',20000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0880 seconds.)

```
INSERT INTO `accounts`(`accno`, `branch_name`, `balance`) VALUES (3,'M.G.Road',30000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0360 seconds.)

```
INSERT INTO `accounts`(`accno`, `branch_name`, `balance`) VALUES (4,'Hebbal',40000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0420 seconds.)

```
INSERT INTO `accounts`(`accno`, `branch_name`, `balance`) VALUES (5,'Chandni Chowk',50000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0400 seconds.)

```
INSERT INTO `accounts`(`accno`, `branch_name`, `balance`) VALUES (6,'Bull Temple Road',60000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.1120 seconds.)

```
INSERT INTO `accounts`(`accno`, `branch_name`, `balance`) VALUES (7,'Hebbal',70000)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

				accno	branch_name	balance
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Sector 17	10000
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Bull Temple Road	20000
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	M.G.Road	30000
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	Hebbal	40000
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	Chandni Chowk	50000
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	Bull Temple Road	60000
<input type="checkbox"/>	 Edit	 Copy	 Delete	7	Hebbal	70000

✓ 1 row inserted. (Query took 0.0390 seconds.)

```
INSERT INTO `depositor`(`customer_name`, `customer_street`, `customer_city`, `accno`) VALUES ('Mehta','Bull Temple Road','Bengaluru',2)
```

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

✓ 1 row inserted. (Query took 0.0930 seconds.)

```
INSERT INTO `depositor`(`customer_name`, `customer_street`, `customer_city`, `accno`) VALUES ('Mehta','Bull Temple Road','Bengaluru',6)
```

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

✓ 1 row inserted. (Query took 0.0260 seconds.)

```
INSERT INTO `depositor`(`customer_name`, `customer_street`, `customer_city`, `accno`) VALUES ('Pant','Sector 14','Chandigarh',1)
```

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

✓ 1 row inserted. (Query took 0.0320 seconds.)

```
INSERT INTO `depositor`(`customer_name`, `customer_street`, `customer_city`, `accno`) VALUES ('Kohli','Street 18','Mumbai',3)
```

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

✓ 1 row inserted. (Query took 0.0260 seconds.)

```
INSERT INTO `depositor`(`customer_name`, `customer_street`, `customer_city`, `accno`) VALUES ('Rahul','Commercial Street','Bengaluru',4)
```

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

✓ 1 row inserted. (Query took 0.0680 seconds.)

```
INSERT INTO `depositor`(`customer_name`, `customer_street`, `customer_city`, `accno`) VALUES ('Dev','Street 101','New Delhi',5)
```

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

✓ 1 row inserted. (Query took 0.0340 seconds.)

```
INSERT INTO `depositor`(`customer_name`, `customer_street`, `customer_city`, `accno`) VALUES ('ABD','Street 1','Bengaluru',7)
```

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

customer_name	customer_street	customer_city	accno
Mehta	Bull Temple Road	Bengaluru	2
Mehta	Bull Temple Road	Bengaluru	6
Pant	Sector 14	Chandigarh	1
Kohli	Street 18	Mumbai	3
Rahul	Commercial Street	Bengaluru	4
Dev	Street 101	New Delhi	5
ABD	Street 1	Bengaluru	7

✓ 1 row inserted. (Query took 0.0690 seconds.)

```
INSERT INTO `loan`(`loan_number`, `branch_name`, `amount`) VALUES (1,'Bull Temple Road',19281.29)
```

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

✓ 1 row inserted. (Query took 0.1120 seconds.)

```
INSERT INTO `loan`(`loan_number`, `branch_name`, `amount`) VALUES (2,'Chandni Chowk',29281.29)
```

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

✓ 1 row inserted. (Query took 0.0370 seconds.)

```
INSERT INTO `loan`(`loan_number`, `branch_name`, `amount`) VALUES (3,'Hebbal',39281.29)
```

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

✓ 1 row inserted. (Query took 0.0720 seconds.)

```
INSERT INTO `loan`(`loan_number`, `branch_name`, `amount`) VALUES (4,'M.G.Road',49281.29)
```

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

✓ 1 row inserted. (Query took 0.0980 seconds.)

```
INSERT INTO `loan`(`loan_number`, `branch_name`, `amount`) VALUES (5,'Sector 17',59281.29)
```

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

← ↑ →	▼			loan_number	branch_name	amount
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Bull Temple Road	19281.29
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Chandni Chowk	29281.29
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Hebbal	39281.29
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	M.G.Road	49281.29
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	Sector 17	59281.29

✓ 1 row inserted. (Query took 0.0290 seconds.)

```
INSERT INTO `borrower`(`customer_name`, `loan_number`) VALUES ('Nik',1)
```

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

✓ 1 row inserted. (Query took 0.0720 seconds.)

```
INSERT INTO `borrower`(`customer_name`, `loan_number`) VALUES ('Shan',2)
```

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

✓ 1 row inserted. (Query took 0.0240 seconds.)

```
INSERT INTO `borrower`(`customer_name`, `loan_number`) VALUES ('Bhuvan',3)
```

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

✓ 1 row inserted. (Query took 0.0310 seconds.)

```
INSERT INTO `borrower`(`customer_name`, `loan_number`) VALUES ('Ram Gopal',4)
```

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

✓ 1 row inserted. (Query took 0.0350 seconds.)

```
INSERT INTO `borrower`(`customer_name`, `loan_number`) VALUES ('Yashan',5)
```

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

				customer_name	loan_number
<input type="checkbox"/>	 Edit	 Copy	 Delete	Nik	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	Shan	2
<input type="checkbox"/>	 Edit	 Copy	 Delete	Bhuvan	3
<input type="checkbox"/>	 Edit	 Copy	 Delete	Ram Gopal	4
<input type="checkbox"/>	 Edit	 Copy	 Delete	Yashan	5

- iii. Find all the customers who have at least two accounts at the Main branch.

✓ Showing rows 0 - 0 (1 total, Query took 0.0440 seconds.)

```
SELECT customer_name from depositor where accno in(SELECT accno from accounts where branch_name='Bull Temple Road') GROUP by customer_name  
HAVING count(*)>=2
```

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

Show all

| Number of rows: 25 ▾

Filter rows: Search this table

+ Options

customer_name

Mehta

Show all

| Number of rows: 25 ▾

Filter rows: Search this table

- iv. Find all the customers who have an account at all the branches located in a specific city.

✓ Showing rows 0 - 0 (1 total, Query took 0.0040 seconds.)

```
select customer_name, branch_name,branch_city FROM depositor,branch where customer_city=branch_city and customer_city='New delhi'
```

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

Show all

Number of rows:

25

Filter rows:

Search this table

+ Options

customer_name

branch_name

branch_city

Dev

Chandni Chowk

New Delhi

Show all

Number of rows:

25

Filter rows:

Search this table

- v. Demonstrate how you delete all account tuples at every branch located in a specific city.

✓ 1 row affected. (Query took 0.2180 seconds.)

```
DELETE from accounts where branch_name in( SELECT branch_name from branch where branch_city='Mumbai')
```

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

accno	branch_name	balance
1	Sector 17	10000
2	Bull Temple Road	20000
4	Hebbal	40000
5	Chandni Chowk	50000
6	Bull Temple Road	60000
7	Hebbal	70000

PROGRAM 3. SUPPLIER DATABASE

Consider the following schema:

SUPPLIERS (sid: integer, sname: string, address: string)

PARTS (pid: integer, pname: string, color: string)

CATALOG (sid: integer, pid: integer, cost: real)

The Catalog relation lists the prices charged for parts by Suppliers. Write the following queries in SQL:

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0320 seconds.)

```
create database supplier
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0010 seconds.)

```
use supplier
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.6370 seconds.)

```
create table suppliers( sid int PRIMARY KEY, sname varchar(20), address varchar(30) )
```

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

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

```
create table parts( pid int PRIMARY KEY, pname varchar(20), color varchar(15) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1660 seconds.)

```
create table catalog( sid int, pid int, cost real, FOREIGN KEY(sid) REFERENCES suppliers(sid), FOREIGN KEY(pid) REFERENCES parts(pid) )
```

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

Table	Action	Rows	Type	Collation	Size	Overhead
catalog		0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
parts		0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
suppliers		0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
3 tables	Sum	With selected: <input type="button" value="▼"/>				

 1 row inserted. (Query took 0.0570 seconds.)

```
INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (1,'Ram Hardware','#1,1 Street,Bengaluru')
```

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

 1 row inserted. (Query took 0.0780 seconds.)

```
INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (2,'Sita Hawrdware','#2,2 Street,Mumbai')
```

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

 1 row inserted. (Query took 0.0290 seconds.)

```
INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (3,'Hardware World','#3,3 Street,Delhi')
```

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

 1 row inserted. (Query took 0.0400 seconds.)

```
INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (4,'Laxman Hardware','#4,4 Street, Chennai')
```

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

 1 row inserted. (Query took 0.0510 seconds.)

```
INSERT INTO `suppliers`(`sid`, `sname`, `address`) VALUES (5,'Acme Widget Suppliers','#1,1 Street Chandigarh')
```

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

 Warning: #1265 Data truncated for column 'sname' at row 1

				sid	sname	address
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Ram Hardware	#1,1 Street,Bengaluru
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Sita Hawrdware	#2,2 Street,Mumbai
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Hardware World	#3,3 Street,Delhi
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	Laxman Hardware	#4,4 Street, Chennai
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	Acme Widget Supplier	#1,1 Street Chandigarh

 Check all With selected:  Edit  Copy  Delete  Export

 1 row inserted. (Query took 0.0460 seconds.)

```
INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (1,'Pipe','White')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.1250 seconds.)

```
INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (2,'Paint','Red')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0310 seconds.)

```
INSERT INTO `parts`(`pid`, `pname`, `color`) VALUES (3,'Tile','Red')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

				▼	pid	pname	color
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Pipe	White	
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Paint	Red	
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Tile	Red	

 Check all With selected:  Edit  Copy  Delete  Export

✓ 1 row inserted. (Query took 0.0370 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (1,1,100)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0540 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (1,2,200)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0230 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (1,3,300)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0220 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (5,1,400)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0210 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (4,2,150)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0250 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (2,3,500)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0580 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (3,1,50)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0390 seconds.)

```
INSERT INTO `catalog`(`sid`, `pid`, `cost`) VALUES (3,2,250)
```

[Console](#) [\[Edit \]](#) [\[Create PHP code \]](#)

sid	pid	cost
1	1	100
1	2	200
1	3	300
5	1	400
4	2	150
2	3	500
3	1	50
3	2	250

i. Find the pnames of parts for which there is some supplier.

Showing rows 0 - 2 (3 total, Query took 0.0050 seconds.)

```
SELECT DISTINCT pname from parts WHERE pid in(select pid from catalog)
```

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

				pname
<input type="checkbox"/>	 Edit	 Copy	 Delete	Pipe
<input type="checkbox"/>	 Edit	 Copy	 Delete	Paint
<input type="checkbox"/>	 Edit	 Copy	 Delete	Tile

- ii. Find the snames of suppliers who supply every part.

Showing rows 0 - 0 (1 total, Query took 0.0370 seconds.)

```
select sname from suppliers where sid in(select sid from catalog group by sid having count(pid)=(select count(*) from parts))
```

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

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

+ Options

← →

				sname
<input type="checkbox"/>	 Edit	 Copy	 Delete	Ram Hardware

- iii. Find the snames of suppliers who supply every red part.

Showing rows 0 - 0 (1 total, Query took 1.0690 seconds.)

```
select * from suppliers s where not exists ((SELECT pid from parts WHERE color='red')except(select pid from catalog c where c.sid=s.sid))
```

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

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

+ Options

			sid	sname	address	
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Ram Hardware	#1,1 Street,Bengaluru

iv. Find the pnames of parts supplied by Acme Widget Suppliers and by no one else

✓ 1 row inserted. (Query took 0.0470 seconds.)

```
INSERT INTO parts VALUES (4,'Tap','Silver')
```

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

✓ 1 row inserted. (Query took 0.0460 seconds.)

```
INSERT into catalog VALUES(5,4,500)
```

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

✓ Showing rows 0 - 8 (9 total, Query took 0.0030 seconds.)

```
select * from catalog
```

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

sid	pid	cost
1	1	100
1	2	200
1	3	300
5	1	400
4	2	150
2	3	500
3	1	50
3	2	250
5	4	500

✓ Showing rows 0 - 0 (1 total, Query took 0.0226 seconds.)

```
select pname from parts where pid in (select pid from catalog where sid in(Select sid from suppliers where sname='Acme Widget Supplier')  
except (Select pid from catalog where sid in(Select sid from suppliers where sname<>'Acme Widget Supplier')))
```

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

Show all

Number of rows:

25

Filter rows:

Search this table

+ Options

← →

pname



Edit

Copy

Delete

Tap



Check all

With selected:

Edit

Copy

Delete

Export

v. Find the sids of suppliers who charge more for some part than the average cost of that part (averaged over all the suppliers who supply that part).

Showing rows 0 - 4 (5 total, Query took 0.0000 seconds.)

```
select sid,pname,cost from parts p,catalog c1 where p.pid=c1.pid and cost>=(select avg(cost) from catalog c2 where c1.pid=c2.pid)
```

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

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

+ Options

sid	pname	cost
1	Paint	200
5	Pipe	400
2	Tile	500
3	Paint	250
5	Tap	500

vi. For each part, find the sname of the supplier who charges the most for that part.

✓ Showing rows 0 - 3 (4 total, Query took 0.0200 seconds.)

```
select s.sid,sname,p.pid,pname,color,cost from suppliers s, parts p,catalog c1 where p.pid=c1.pid and c1.sid=s.sid and cost in(Select max(cost) from catalog c2 where c2.pid=p.pid)
```

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

Show all

Number of rows:

25

Filter rows:

Search this table

+ Options

sid	sname	pid	pname	color	cost
5	Acme Widget Supplier	1	Pipe	White	400
2	Sita Hawrdware	3	Tile	Red	500
3	Hardware World	2	Paint	Red	250
5	Acme Widget Supplier	4	Tap	Silver	500

vii. Find the sids of suppliers who supply only red parts.

Showing rows 0 - 1 (2 total, Query took 0.0060 seconds.)

```
select * from suppliers s where not exists((Select pid from catalog c where c.sid=s.sid) EXCEPT(Select pid from parts where color='red'))
```

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

			sid	sname	address	
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Sita Hawrdware	#2,2 Street,Mumbai
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	Laxman Hardware	#4,4 Street, Chennai

 Check all With selected:  Edit  Copy  Delete  Export

PROGRAM 4. STUDENT FACULTY DATABASE

Consider the following database for student enrolment for course:

STUDENT (snum: integer, sname: string, major: string, level: string, age: integer)

CLASS (name: string, meets at: time, room: string, fid: integer)

ENROLLED (snum: integer, cname: string)

FACULTY (fid: integer, fname: string, deptid: integer)

The meaning of these relations is straightforward; for example, Enrolled has one record per student-class pair such that the student is enrolled in the class. Level is a two character code with 4 different values (example:

Junior: JR etc) Write the following queries in SQL. No duplicates should be printed in any of the answers.

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0000 seconds.)

```
use student_faculty
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2910 seconds.)

```
create table student(snum int , sname varchar(20) , major varchar(10) , lvl varchar(2) , age int , primary key(snum))
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.3370 seconds.)

```
create table faculty(fid int , fname varchar(20) , deptid int , primary key(fid))
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1960 seconds.)

```
create table class(cname varchar(10) , meets_at timestamp , room varchar(10) , fid int , primary key(cname) , foreign key(fid) references faculty(fid))
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2360 seconds.)

```
create table enrolled(snum int , cname varchar(10) , foreign key(snum) references student(snum) , foreign key(cname) references class(cname))
```

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

Table	Action	Rows	Type	Collation	Size	Overhead
class	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
enrolled	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
faculty	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
student	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
4 tables	Sum	0	InnoDB	utf8mb4_general_ci	112.0 KiB	0 B

✓ 1 row inserted. (Query took 0.0310 seconds.)

```
insert into student values(1, 'Ross', 'CS', 'Sr', 19)
```

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

✓ 1 row inserted. (Query took 0.1110 seconds.)

```
insert into student values(2, 'Rachel', 'CS', 'Jr', 20)
```

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

✓ 1 row inserted. (Query took 0.0300 seconds.)

```
insert into student values(3 , 'Penny', 'EC', 'Sr', 20)
```

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

✓ 1 row inserted. (Query took 0.0480 seconds.)

```
insert into student values(4, 'Joey', 'CS', 'Jr', 20)
```

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

✓ 1 row inserted. (Query took 0.0460 seconds.)

```
insert into student values(5, 'Chandler', 'CS', 'Jr', 20)
```

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

✓ 1 row inserted. (Query took 0.0460 seconds.)

```
insert into student values(6, 'Monica', 'EC', 'Sr', 21)
```

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

Showing rows 0 - 5 (6 total, Query took 0.0030 seconds.)

SELECT * FROM `student`

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

	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	snum	sname	major	lvl	age
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	1	Ross	CS	Sr	19
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	2	Rachel	CS	Jr	20
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	3	Penny	EC	Sr	20
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	4	Joey	CS	Jr	20
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	5	Chandler	CS	Jr	20
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	6	Monica	EC	Sr	21



Check all

With selected:

Edit

Copy

Delete

Export

✓ 1 row inserted. (Query took 0.0810 seconds.)

```
insert into faculty values(101, 'Abhimanyu', 1000)
```

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

✓ 1 row inserted. (Query took 0.1150 seconds.)

```
insert into faculty values(102, 'Shivam', 1000)
```

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

✓ 1 row inserted. (Query took 0.0210 seconds.)

```
insert into faculty values(103 , 'Syed', 1001)
```

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

✓ 1 row inserted. (Query took 0.0350 seconds.)

```
insert into faculty values(104, 'Shreenidhi', 1002)
```

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

✓ 1 row inserted. (Query took 0.0400 seconds.)

```
insert into faculty values(105, 'Rushil', 1000)
```

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

✓ Showing rows 0 - 4 (5 total, Query took 0.0020 seconds.)

SELECT * FROM `faculty`

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

<input type="checkbox"/>	 Edit	 Copy	 Delete	fid	fname	deptid
<input type="checkbox"/>	 Edit	 Copy	 Delete	101	Abhimanyu	1000
<input type="checkbox"/>	 Edit	 Copy	 Delete	102	Shivam	1000
<input type="checkbox"/>	 Edit	 Copy	 Delete	103	Syed	1001
<input type="checkbox"/>	 Edit	 Copy	 Delete	104	Shreenidhi	1002
<input type="checkbox"/>	 Edit	 Copy	 Delete	105	Rushil	1000

✓ 1 row inserted. (Query took 0.0480 seconds.)

```
insert into class values('c1', '13/12/15 10:15:16', 'R1', 104)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.1050 seconds.)

```
insert into class values('c10', '13/12/15 10:15:16', 'R128', 104)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0220 seconds.)

```
insert into class values('c2', '13/12/15 10:15:20', 'R2', 102)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0280 seconds.)

```
insert into class values('c3', '13/12/15 10:15:25', 'R3', 101)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0270 seconds.)

```
insert into class values('c4', '13/12/15 20:15:20', 'R4', 104)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0230 seconds.)

```
insert into class values('c5', '13/12/15 20:15:20', 'R3', 105)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0310 seconds.)

```
insert into class values('c6', '13/12/15 13:20:20', 'R2', 104)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0290 seconds.)

```
insert into class values('c7', '13/12/15 10:10:10', 'R3', 104)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ Showing rows 0 - 7 (8 total, Query took 0.0020 seconds.)

SELECT * FROM `class`

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

				cname	meets_at	room	fid
<input type="checkbox"/>				c1	2013-12-15 10:15:16	R1	104
<input type="checkbox"/>				c10	2013-12-15 10:15:16	R128	104
<input type="checkbox"/>				c2	2013-12-15 10:15:20	R2	102
<input type="checkbox"/>				c3	2013-12-15 10:15:25	R3	101
<input type="checkbox"/>				c4	2013-12-15 20:15:20	R4	104
<input type="checkbox"/>				c5	2013-12-15 20:15:20	R3	105
<input type="checkbox"/>				c6	2013-12-15 13:20:20	R2	104
<input type="checkbox"/>				c7	2013-12-15 10:10:10	R3	104



Check all

With selected:

 1 row inserted. (Query took 0.0720 seconds.)

```
insert into enrolled values(5, 'c4')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0750 seconds.)

```
insert into enrolled values(2, 'c1')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0210 seconds.)

```
insert into enrolled values(3, 'c3')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0340 seconds.)

```
insert into enrolled values(3, 'c5')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0350 seconds.)

```
insert into enrolled values(1, 'c1')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0270 seconds.)

```
insert into enrolled values(4, 'c3')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0290 seconds.)

```
insert into enrolled values(4, 'c5')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0330 seconds.)

```
insert into enrolled values(5, 'c5')
```

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

 1 row inserted. (Query took 0.0270 seconds.)

```
insert into enrolled values(1, 'c5')
```

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

 1 row inserted. (Query took 0.1620 seconds.)

```
insert into enrolled values(2, 'c5')
```

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

✓ Showing rows 0 - 9 (10 total, Query took 0.0010 seconds.)

`SELECT * FROM `enrolled``

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

snum	cname
5	c4
2	c1
3	c3
3	c5
1	c1
4	c3
4	c5
5	c5
1	c5
2	c5

Show all

Number of rows:

25

Filter rows:

Search this table

Sort by key:

None

- i. Find the names of all Juniors (level = JR) who are enrolled in a class taught by

Showing rows 0 - 0 (1 total, Query took 0.0290 seconds.)

```
select s.sname from student s , faculty f , class c , enrolled e where s.snum = e.snum and f.fid = c.fid and e cname = c cname and f fname = 'Abhimanyu' and s lvl = 'Jr'
```

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

Show all | Number of rows: 25 Filter rows:

+ Options

← →

				sname
<input type="checkbox"/>	 Edit	 Copy	 Delete	Joey

- ii. Find the names of all classes that either meet in room R128 or have five or more Students enrolled.

Showing rows 0 - 1 (2 total, Query took 0.0800 seconds.)

```
select c cname from class c where room='R128' or c cname in (select e cname from enrolled e group by e cname having count(e cname)>=5)
```

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

				cname
<input type="checkbox"/>	 Edit	 Copy	 Delete	c10
<input type="checkbox"/>	 Edit	 Copy	 Delete	c5

- iii. Find the names of all students who are enrolled in two classes that meet at the same time.

Showing rows 0 - 0 (1 total, Query took 0.0290 seconds.)

```
select distinct s.sname from student s where s.snum in (select e1.snum from enrolled e1 , enrolled e2 , class c1 , class c2 where e1.snum = e2.snum and e1 cname != e2 cname and e1 cname = c1 cname and e2 cname = c2 cname and c1 meets_at = c2 meets_at)
```

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

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

+ Options

				sname
<input type="checkbox"/>	 Edit	 Copy	 Delete	Chandler

- iv. Find the names of faculty members who teach in every room in which some class is taught.

Showing rows 0 - 0 (1 total, Query took 0.0300 seconds.)

```
select distinct f.fname from faculty f where not exists((select c.room from class c where c.room not in (select c1.room from class c1 where c1.fid = f.fid)))
```

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

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

+ Options

← →

	fname
<input type="checkbox"/>	Shreenidhi

Edit Copy Delete

v. Find the names of faculty members for whom the combined enrolment of the courses that they teach is less than five.

✓ Showing rows 0 - 3 (4 total, Query took 0.0080 seconds.)

```
select distinct f.fname from faculty f left join class c on f.fid = c.fid where 5 > (select count(*) from enrolled e where e cname = c cname)
```

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

fname

Abhimanyu

Shivam

Syed

Shreenidhi

- vi. Find the names of students who are not enrolled in any class.

Showing rows 0 - 0 (1 total, Query took 0.0080 seconds.)

```
select s.sname from student s where s.snum not in (select e.snum from enrolled e)
```

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

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

+ Options

← T →

	sname
<input type="checkbox"/>	Monica

 Edit  Copy  Delete

vii. For each age value that appears in Students, find the level value that appears most often. For example, if there are more FR level students aged 18 than SR, JR, or SO students aged 18, you should print the pair (18, FR).

✓ Showing rows 0 - 2 (3 total, Query took 0.0350 seconds.)

```
select s.age , s.lvl from student s group by s.age , s.lvl having s.lvl in ( select s1.lvl from student s1 where s1.age = s.age group by s1.lvl , s1.age having count(*) >= all (select count(*) from student s2 where s1.age = s2.age group by s2.age , s2.lvl))
```

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

	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	age	lvl
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	19	Sr
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	20	Jr
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	21	Sr

PROGRAM 5. AIRLINE FLIGHT DATABASE

FLIGHTS (flno: integer, from: string, to: string, distance: integer, departs: time, arrives: time, price: integer)

AIRCRAFT (aid: integer, aname: string, cruisingrange: integer)

CERTIFIED (eid: integer, aid: integer)

EMPLOYEE (eid: integer, ename: string, salary: integer)

Note that the Employees relation describes pilots and other kinds of employees as well; Every pilot is certified for some aircraft, and only pilots are certified to fly.

Write each of the following queries in SQL.

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0000 seconds.)

```
use Airline_flight
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2090 seconds.)

```
create table flights(flno int primary key , from_ varchar(30) , to_ varchar(30) , distance int , departs datetime, arrives datetime ,  
price int)
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2330 seconds.)

```
create table aircraft(aid int primary key , aname varchar(30) , cruisingrange int)
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1820 seconds.)

```
create table employee(eid int primary key , ename varchar(30) , salary int)
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2670 seconds.)

```
create table certified(eid int, aid int , primary key(eid , aid) , foreign key(eid) references employee(eid)on UPDATE CASCADE on DELETE  
CASCADE , foreign key(aid) references aircraft(aid)on UPDATE CASCADE on DELETE CASCADE)
```

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

Table	Action	Rows	Type	Collation	Size	Overhead
class	Browse Structure Search Insert Empty Drop	8	InnoDB	utf8mb4_general_ci	32.0 KiB	-
enrolled	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	48.0 KiB	-
faculty	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
student	Browse Structure Search Insert Empty Drop	6	InnoDB	utf8mb4_general_ci	16.0 KiB	-
4 tables	Sum	29	InnoDB	utf8mb4_general_ci	112.0 KiB	0 B

✓ 1 row inserted. (Query took 0.0580 seconds.)

```
insert into flights values(101,'Bangalore','Mumbai',2500,'2021-05-13 07:15:31','2021-05-13 17:15:31',5000)
```

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

✓ 1 row inserted. (Query took 0.1370 seconds.)

```
insert into flights values(102,'Bangalore','Lucknow',3000,'2021-05-13 07:15:31','2021-05-13 11:15:31',6000)
```

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

✓ 1 row inserted. (Query took 0.0560 seconds.)

```
insert into flights values(103,'Lucknow','Mumbai',500,'2021-05-13 12:15:31','2021-05-13 17:15:31',3000)
```

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

✓ 1 row inserted. (Query took 0.0420 seconds.)

```
insert into flights values(107,'Bangalore','Frankfurt',8000,'2021-05-13 07:15:31','2021-05-13 22:15:31',60000)
```

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

✓ 1 row inserted. (Query took 0.1690 seconds.)

```
insert into flights values(104,'Bangalore','Frankfurt',8500,'2021-05-13 07:15:31','2021-05-13 23:15:31',75000)
```

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

✓ 1 row inserted. (Query took 0.0520 seconds.)

```
insert into flights values(105,'Kolkata','Mumbai',3400,'2021-05-13 07:15:31','2021-05-13 09:15:31',7000)
```

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

✓ Showing rows 0 - 5 (6 total, Query took 0.0020 seconds.)

SELECT * FROM `flights`

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

		flno	from_	to_	distance	departs	arrives	price
<input type="checkbox"/>	 Edit	 Copy	 Delete	101	Bangalore	Mumbai	2500	2021-05-13 07:15:31
<input type="checkbox"/>	 Edit	 Copy	 Delete	102	Bangalore	Lucknow	3000	2021-05-13 07:15:31
<input type="checkbox"/>	 Edit	 Copy	 Delete	103	Lucknow	Mumbai	500	2021-05-13 12:15:31
<input type="checkbox"/>	 Edit	 Copy	 Delete	104	Bangalore	Frankfurt	8500	2021-05-13 07:15:31
<input type="checkbox"/>	 Edit	 Copy	 Delete	105	Kolkata	Mumbai	3400	2021-05-13 07:15:31
<input type="checkbox"/>	 Edit	 Copy	 Delete	107	Bangalore	Frankfurt	8000	2021-05-13 07:15:31

✓ 1 row inserted. (Query took 0.0610 seconds.)

```
insert into aircraft values(101 , 'Airbus' , 3000)
```

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

✓ 1 row inserted. (Query took 0.1120 seconds.)

```
insert into aircraft values(102,'Boeing',900)
```

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

✓ 1 row inserted. (Query took 0.0350 seconds.)

```
insert into aircraft values(103,'Dassault',800)
```

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

✓ 1 row inserted. (Query took 0.0410 seconds.)

```
insert into aircraft values(104,'Dreamliner',10000)
```

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

✓ 1 row inserted. (Query took 0.0400 seconds.)

```
insert into aircraft values(105,'Boeing',3500)
```

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

✓ 1 row inserted. (Query took 0.0360 seconds.)

```
insert into aircraft values(106,'Cessena',1500)
```

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

✓ 1 row inserted. (Query took 0.1120 seconds.)

```
insert into aircraft values(107,'Dream' , 120000)
```

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

Showing rows 0 - 6 (7 total, Query took 0.0030 seconds.)

SELECT * FROM `aircraft`

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

				aid	aname	cruisingrange
<input type="checkbox"/>	 Edit	 Copy	 Delete	101	Airbus	3000
<input type="checkbox"/>	 Edit	 Copy	 Delete	102	Boeing	900
<input type="checkbox"/>	 Edit	 Copy	 Delete	103	Dassault	800
<input type="checkbox"/>	 Edit	 Copy	 Delete	104	Dreamliner	10000
<input type="checkbox"/>	 Edit	 Copy	 Delete	105	Boeing	3500
<input type="checkbox"/>	 Edit	 Copy	 Delete	106	Cessna	1500
<input type="checkbox"/>	 Edit	 Copy	 Delete	107	Dream	120000



Check all

With selected:

 Edit

 Copy

 Delete

 Export

✓ 1 row inserted. (Query took 0.0570 seconds.)

```
insert into employee values(701,'Arvind',50000)
```

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

✓ 1 row inserted. (Query took 0.1590 seconds.)

```
insert into employee values(702,'Bali',100000)
```

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

✓ 1 row inserted. (Query took 0.0490 seconds.)

```
insert into employee values(703,'Chutki',150000)
```

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

✓ 1 row inserted. (Query took 0.0310 seconds.)

```
insert into employee values(704,'Drake',90000)
```

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

✓ 1 row inserted. (Query took 0.0290 seconds.)

```
insert into employee values(705,'Elena',40000)
```

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

✓ 1 row inserted. (Query took 0.0310 seconds.)

```
insert into employee values(706,'Shashank',60000)
```

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

✓ 1 row inserted. (Query took 0.0290 seconds.)

```
insert into employee values(707,'Sharma',90000)
```

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

Showing rows 0 - 6 (7 total, Query took 0.0020 seconds.)

SELECT * FROM `employee`

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

				eid	ename	salary
<input type="checkbox"/>	 Edit	 Copy	 Delete	701	Arvind	50000
<input type="checkbox"/>	 Edit	 Copy	 Delete	702	Bali	100000
<input type="checkbox"/>	 Edit	 Copy	 Delete	703	Chutki	150000
<input type="checkbox"/>	 Edit	 Copy	 Delete	704	Drake	90000
<input type="checkbox"/>	 Edit	 Copy	 Delete	705	Elena	40000
<input type="checkbox"/>	 Edit	 Copy	 Delete	706	Shashank	60000
<input type="checkbox"/>	 Edit	 Copy	 Delete	707	Sharma	90000



Check all

With selected:

 Edit

 Copy

 Delete

 Export

✓ 1 row inserted. (Query took 0.0750 seconds.)

```
insert into certified values(702,101)
```

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

✓ 1 row inserted. (Query took 0.0700 seconds.)

```
insert into certified values(703,105)
```

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

✓ 1 row inserted. (Query took 0.0320 seconds.)

```
insert into certified values(704,105)
```

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

✓ 1 row inserted. (Query took 0.0530 seconds.)

```
insert into certified values(705,103)
```

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

✓ 1 row inserted. (Query took 0.0410 seconds.)

```
insert into certified values(701,102)
```

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

✓ 1 row inserted. (Query took 0.0310 seconds.)

```
insert into certified values(703,104)
```

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

✓ 1 row inserted. (Query took 0.1870 seconds.)

```
insert into certified values(701,101)
```

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

✓ 1 row inserted. (Query took 0.0380 seconds.)

```
insert into certified values(704,104)
```

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

✓ 1 row inserted. (Query took 0.0340 seconds.)

```
insert into certified values(702,107)
```

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

✓ 1 row inserted. (Query took 0.0330 seconds.)

```
insert into certified values(703,107)
```

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

✓ 1 row inserted. (Query took 0.0550 seconds.)

```
insert into certified values(704,107)
```

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

✓ 1 row inserted. (Query took 0.0570 seconds.)

```
insert into certified values(701,106)
```

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

✓ 1 row inserted. (Query took 0.0260 seconds.)

```
insert into certified values(701,105)
```

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

✓ 1 row inserted. (Query took 0.0300 seconds.)

```
insert into certified values(702,104)
```

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

Showing rows 0 - 13 (14 total, Query took 0.0040 seconds.) [aid: 101... - 107...]

SELECT * FROM `certified` ORDER BY `certified`.`aid` ASC

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 →

	 Edit	 Copy	 Delete	eid	aid
<input type="checkbox"/>	 Edit	 Copy	 Delete	701	101
<input type="checkbox"/>	 Edit	 Copy	 Delete	702	101
<input type="checkbox"/>	 Edit	 Copy	 Delete	701	102
<input type="checkbox"/>	 Edit	 Copy	 Delete	705	103
<input type="checkbox"/>	 Edit	 Copy	 Delete	702	104
<input type="checkbox"/>	 Edit	 Copy	 Delete	703	104
<input type="checkbox"/>	 Edit	 Copy	 Delete	704	104
<input type="checkbox"/>	 Edit	 Copy	 Delete	701	105
<input type="checkbox"/>	 Edit	 Copy	 Delete	703	105
<input type="checkbox"/>	 Edit	 Copy	 Delete	704	105
<input type="checkbox"/>	 Edit	 Copy	 Delete	701	106
<input type="checkbox"/>	 Edit	 Copy	 Delete	702	107
<input type="checkbox"/>	 Edit	 Copy	 Delete	703	107
<input type="checkbox"/>	 Edit	 Copy	 Delete	704	107

- i. Find the names of aircraft such that all pilots certified to operate them have salaries more than Rs.80,000.

Showing rows 0 - 3 (4 total, Query took 0.0340 seconds.)

```
SELECT DISTINCT A.aname FROM Aircraft A WHERE A.Aid IN (SELECT C.aid FROM Certified C, Employee E WHERE C.eid = E.eid AND NOT EXISTS (SELECT * FROM Employee E1 WHERE E1.eid = E.eid AND E1.salary < 80000 ))
```

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

				aname
<input type="checkbox"/>	 Edit	 Copy	 Delete	Airbus
<input type="checkbox"/>	 Edit	 Copy	 Delete	Dreamliner
<input type="checkbox"/>	 Edit	 Copy	 Delete	Boeing
<input type="checkbox"/>	 Edit	 Copy	 Delete	Dream

 Check all With selected:  Edit  Copy  Delete  Export

- ii. For each pilot who is certified for more than three aircrafts, find the eid and the maximum cruising range of the aircraft for which she or he is certified.

Showing rows 0 - 0 (1 total, Query took 0.0220 seconds.)

```
select c.eid , max(a.cruisingrange) from certified c , aircraft a where a.aid = c.aid group by c.eid having count(*) > 3
```

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

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

+ Options	← →	eid	max(a.cruisingrange)		
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	701	3500

↑ Check all With selected:

iii. Find the names of pilots whose salary is less than the price of the cheapest route from Bengaluru to Frankfurt.

Showing rows 0 - 1 (2 total, Query took 0.0040 seconds.)

```
select ename from employee where salary < (select min(price) from flights where from_ = 'Bangalore' and to_ = 'Frankfurt')
```

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

				ename
<input type="checkbox"/>	 Edit	 Copy	 Delete	Arvind
<input type="checkbox"/>	 Edit	 Copy	 Delete	Elena

 Check all With selected:  Edit  Copy  Delete  Export

iv. For all aircraft with cruising range over 1000 Kms, find the name of the aircraft and the average salary of all pilots certified for this aircraft.

Showing rows 0 - 4 (5 total, Query took 0.0350 seconds.)

```
select a.aname , avg(e.salary) from aircraft a , employee e , certified c where a.aid = c.aid and e.eid = c.eid and a.cruisingrange > 1000 group by a.aname
```

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

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

+ Options

				aname	avg(e.salary)
<input type="checkbox"/>	 Edit	 Copy	 Delete	Airbus	75000.0000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Boeing	96666.6667
<input type="checkbox"/>	 Edit	 Copy	 Delete	Cessena	50000.0000
<input type="checkbox"/>	 Edit	 Copy	 Delete	Dream	113333.3333
<input type="checkbox"/>	 Edit	 Copy	 Delete	Dreamliner	113333.3333

v. Find the names of pilots certified for some Boeing aircraft.

Showing rows 0 - 2 (3 total, Query took 0.0070 seconds.)

```
select distinct e.ename from employee e , aircraft a , certified c where a.aid = c.aid and e.eid = c.eid and a.aname like 'Boeing%'
```

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

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

+ Options

				ename
<input type="checkbox"/>	 Edit	 Copy	 Delete	Arvind
<input type="checkbox"/>	 Edit	 Copy	 Delete	Chutki
<input type="checkbox"/>	 Edit	 Copy	 Delete	Drake

 Check all With selected:  Edit  Copy  Delete  Export

vi. Find the aids of all aircraft that can be used on routes from Bengaluru to New Delhi.

Showing rows 0 - 1 (2 total, Query took 0.0060 seconds.)

```
select a.aid from aircraft a where a.cruisingrange >= (select min(distance) from flights where from_ = 'Bangalore' and to_ = 'Frankfurt')
```

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

aid
104
107

← → Check all With selected:

vii. A customer wants to travel from Madison to New York with no more than two changes of flight. List the choice of departure times from Madison if the customer wants to arrive in New York by 6 p.m.
(Bengaluru-Mumbai used as city)

Show query box

✓ Showing rows 0 - 1 (2 total, Query took 0.0270 seconds.)

```
select F.flno, F.departs from Flights F where F.flno IN ( ( select F0.flno from Flights F0 where F0.from_ = 'Bangalore' and F0.to_ = 'Mumbai' and extract(hour from F0.arrives) < 18 ) union ( select F0.flno from Flights F0, Flights F1 where F0.from_ = 'Bangalore' AND F0.to_ <> 'Mumbai' and F0.to_ = F1.from_ AND F1.to_ = 'Mumbai' and F1.departs > F0.arrives and extract(hour from F1.arrives) < 18) union ( select F0.flno from Flights F0, Flights F1, Flights F2 where F0.from_ = 'Bangalore' and F0.to_ = F1.from_ and F1.to_ = F2.from_ and F2.to_ = 'Mumbai' and F0.to_ <> 'Mumbai' and F1.to_ <> 'Mumbai' and F1.departs > F0.arrives and F2.departs > F1.arrives and extract(hour from F2.arrives) < 18))
```

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 →			flno	departs	
<input type="checkbox"/>	 Edit	 Copy	 Delete	101	2021-05-13 07:15:31
<input type="checkbox"/>	 Edit	 Copy	 Delete	102	2021-05-13 07:15:31

↑ Check all With selected:  Edit  Copy  Delete  Export

viii. Print the name and salary of every non-pilot whose salary is more than the average salary for pilots.

Show query box

✓ Showing rows 0 - 0 (1 total, Query took 0.0770 seconds.)

```
select e.ename , e.salary from employee e where e.salary > (select avg(distinct e1.salary) from employee e1 , certified c where e1.eid = c.eid) and e.eid not in (select distinct eid from certified)
```

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

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

Options

	ename	salary
<input type="checkbox"/>	Sharma	90000

▲

PROGRAM 6: ORDER PROCESSING DATABASE

Consider the following relations for an Order Processing database application in a company.

CUSTOMER (CUST #: int, cname: String, city: String)

ORDER (order #: int, odate: date, cust #: int, ord-Amt: int)

ITEM (item #: int, unit-price: int)

ORDER-ITEM (order #: int, item #: int, qty: int)

WAREHOUSE (warehouse #: int, city: String)

SHIPMENT (order #: int, warehouse #: int, ship-date: date)

- i. Create the above tables by properly specifying the primary keys and the foreign keys and the foreign keys.

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2888 seconds.)

```
create table customer( custNo int PRIMARY KEY, cname varchar(10), city varchar(20) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1980 seconds.)

```
create table orderTable( orderNo int primary key, odate date, custNo int, ordAmt int, FOREIGN KEY(custNo) REFERENCES customer(custNo) on update cascade on delete set NULL )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2680 seconds.)

```
create table item( itemNo int PRIMARY KEY, unitPrice int )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.4220 seconds.)

```
create table orderItem( orderNo int, itemNo int, qty int, FOREIGN KEY(orderNo) REFERENCES orderTable(orderNo) on update cascade on delete set NULL, FOREIGN KEY(itemNo) REFERENCES item(itemNo) on update cascade on delete set NULL )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2006 seconds.)

```
create table warehouse( warehouseNo int PRIMARY KEY, city varchar(20) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2612 seconds.)

```
create table shipment( orderNo int, warehouseNo int, shipdate date, FOREIGN KEY(orderNo) REFERENCES orderTable(orderNo) on update cascade on delete set NULL, FOREIGN KEY(warehouseNo) REFERENCES warehouse(warehouseNo) on update cascade on delete set NULL )
```

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

	Table	Action				Rows	Type	Condition	Size	Overhead
<input type="checkbox"/>	customer								0 InnoDB utf8mb4_general_ci	16.0 KiB
<input type="checkbox"/>	item								0 InnoDB utf8mb4_general_ci	16.0 KiB
<input type="checkbox"/>	orderitem								0 InnoDB utf8mb4_general_ci	48.0 KiB
<input type="checkbox"/>	ordertable								0 InnoDB utf8mb4_general_ci	32.0 KiB
<input type="checkbox"/>	shipment								0 InnoDB utf8mb4_general_ci	48.0 KiB
<input type="checkbox"/>	warehouse								0 InnoDB utf8mb4_general_ci	16.0 KiB
6 tables Sum						0	InnoDB	utf8mb4_general_ci	176.0 KiB	0 B

ii. Enter at least five tuples for each relation.

✓ 1 row inserted. (Query took 0.0472 seconds.)

```
INSERT INTO `customer` VALUES (1,'Jake','Bangalore')
```

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

✓ 1 row inserted. (Query took 0.1130 seconds.)

```
INSERT INTO `customer` VALUES (2,'Terry','Mumbai')
```

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

✓ 1 row inserted. (Query took 0.0700 seconds.)

```
INSERT INTO `customer` VALUES (3,'Charles','Jaipur')
```

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

✓ 1 row inserted. (Query took 0.0370 seconds.)

```
INSERT INTO `customer` VALUES (4,'Rosa','Guwahati')
```

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

✓ 1 row inserted. (Query took 0.0380 seconds.)

```
INSERT INTO `customer` VALUES (5,'Amy','Bangalore')
```

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

✓ 1 row inserted. (Query took 0.0330 seconds.)

```
INSERT INTO `customer` VALUES (6,'Holt','Mumbai')
```

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

← ↑ →

				▼	custNo	cname	city
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Jake	Bangalore	
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Terry	Mumbai	
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Charles	Jaipur	
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	Rosa	Guwahati	
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	Amy	Bangalore	
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	Holt	Mumbai	

✓ 1 row inserted. (Query took 0.0678 seconds.)

```
INSERT INTO `ordertable` VALUES (1,'2021-06-01',1,1000)
```

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

✓ 1 row inserted. (Query took 0.1014 seconds.)

```
INSERT INTO `ordertable` VALUES (2,'2021-06-02',1,1500)
```

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

✓ 1 row inserted. (Query took 0.0562 seconds.)

```
INSERT INTO `ordertable` VALUES (3,'2021-06-03',3,1600)
```

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

✓ 1 row inserted. (Query took 0.0412 seconds.)

```
INSERT INTO `ordertable` VALUES (4,'2021-06-04',2,1700)
```

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

✓ 1 row inserted. (Query took 0.0532 seconds.)

```
INSERT INTO `ordertable` VALUES (5,'2021-06-05',4,1200)
```

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

✓ 1 row inserted. (Query took 0.0618 seconds.)

```
INSERT INTO `ordertable` VALUES (6,'2021-06-06',5,1100)
```

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

✓ 1 row inserted. (Query took 0.0400 seconds.)

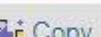
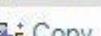
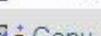
```
INSERT INTO `ordertable` VALUES (7,'2021-06-07',2,1890)
```

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

✓ 1 row inserted. (Query took 0.2150 seconds.)

```
INSERT INTO `ordertable` VALUES (8,'2021-06-08',4,1999)
```

[Console] [Edit] [Create PHP code]

				orderNo	odate	custNo	ordAmt
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	2021-06-01	1	1000
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	2021-06-02	1	1500
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	2021-06-03	3	1600
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	2021-06-04	2	1700
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	2021-06-05	4	1200
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	2021-06-06	5	1100
<input type="checkbox"/>	 Edit	 Copy	 Delete	7	2021-06-07	2	1890
<input type="checkbox"/>	 Edit	 Copy	 Delete	8	2021-06-08	4	1999

```
INSERT INTO `item` VALUES (1,1000)
```

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

✓ 1 row inserted. (Query took 0.1390 seconds.)

```
INSERT INTO `item` VALUES (2,100)
```

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

✓ 1 row inserted. (Query took 0.1210 seconds.)

```
INSERT INTO `item` VALUES (3,900)
```

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

✓ 1 row inserted. (Query took 0.0312 seconds.)

```
INSERT INTO `item` VALUES (4,700)
```

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

✓ 1 row inserted. (Query took 0.0426 seconds.)

```
INSERT INTO `item` VALUES (5,800)
```

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

✓ 1 row inserted. (Query took 0.0540 seconds.)

```
INSERT INTO `item` VALUES (6,750)
```

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

✓ 1 row inserted. (Query took 0.0320 seconds.)

```
INSERT INTO `item` VALUES (7,850)
```

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

✓ 1 row inserted. (Query took 0.0320 seconds.)

```
INSERT INTO `item` VALUES (8,950)
```

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

 1 row inserted. (Query took 0.0420 seconds.)

INSERT INTO `item` VALUES (9,990)

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

 1 row inserted. (Query took 0.0400 seconds.)

INSERT INTO `item` VALUES (10,999)

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

<input type="checkbox"/>	 Edit	 Copy	 Delete	itemNo	unitPrice
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	1000
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	100
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	900
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	700
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	800
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	750
<input type="checkbox"/>	 Edit	 Copy	 Delete	7	850
<input type="checkbox"/>	 Edit	 Copy	 Delete	8	950
<input type="checkbox"/>	 Edit	 Copy	 Delete	9	990
<input type="checkbox"/>	 Edit	 Copy	 Delete	10	999

```
INSERT INTO `orderitem` VALUES (1,9,1)
```

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

✓ 1 row inserted. (Query took 0.0864 seconds.)

```
INSERT INTO `orderitem` VALUES (2,8,1)
```

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

✓ 1 row inserted. (Query took 0.0366 seconds.)

```
INSERT INTO `orderitem` VALUES (3,7,1)
```

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

✓ 1 row inserted. (Query took 0.0156 seconds.)

```
INSERT INTO `orderitem` VALUES (4,6,1)
```

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

✓ 1 row inserted. (Query took 0.0844 seconds.)

```
INSERT INTO `orderitem` VALUES (5,5,1)
```

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

✓ 1 row inserted. (Query took 0.0156 seconds.)

```
INSERT INTO `orderitem` VALUES (6,4,1)
```

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

✓ 1 row inserted. (Query took 0.0446 seconds.)

```
INSERT INTO `orderitem` VALUES (7,3,1)
```

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

✓ 1 row inserted. (Query took 0.0260 seconds.)

```
INSERT INTO `orderitem` VALUES (8,10,1)
```

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

orderNo	itemNo	qty
1	9	1
2	8	1
3	7	1
4	6	1
5	5	1
6	4	1
7	3	1
8	10	1
8	1	1
7	2	8

✓ 1 row inserted. (Query took 0.0230 seconds.)

```
INSERT INTO `warehouse` VALUES (1,'Bengaluru')
```

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

✓ 1 row inserted. (Query took 0.1322 seconds.)

```
INSERT INTO `warehouse` VALUES (2,'Mumbai')
```

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

✓ 1 row inserted. (Query took 0.0366 seconds.)

```
INSERT INTO `warehouse` VALUES (3,'Delhi')
```

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

✓ 1 row inserted. (Query took 0.0488 seconds.)

```
INSERT INTO `warehouse` VALUES (4,'Chennai')
```

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

✓ 1 row inserted. (Query took 0.0156 seconds.)

```
INSERT INTO `warehouse` VALUES (5,'Delhi')
```

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

✓ 1 row inserted. (Query took 0.0376 seconds.)

```
INSERT INTO `warehouse` VALUES (6,'Bengaluru')
```

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

← ↑ →

				warehouseNo	city
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Bengaluru
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Mumbai
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Delhi
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	Chennai
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	Delhi
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	Bengaluru

✓ 1 row inserted. (Query took 0.0420 seconds.)

```
INSERT INTO `shipment` VALUES (1,5,'2021-06-08')
```

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

✓ 1 row inserted. (Query took 0.1022 seconds.)

```
INSERT INTO `shipment` VALUES (2,2,'2021-06-08')
```

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

✓ 1 row inserted. (Query took 0.0400 seconds.)

```
INSERT INTO `shipment` VALUES (3,6,'2021-06-08')
```

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

✓ 1 row inserted. (Query took 0.0250 seconds.)

```
INSERT INTO `shipment` VALUES (4,1,'2021-06-08')
```

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

✓ 1 row inserted. (Query took 0.0540 seconds.)

```
INSERT INTO `shipment` VALUES (5,6,'2021-06-08')
```

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

✓ 1 row inserted. (Query took 0.0350 seconds.)

```
INSERT INTO `shipment` VALUES (6,5,'2021-06-08')
```

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

✓ 1 row inserted. (Query took 0.0410 seconds.)

```
INSERT INTO `shipment` VALUES (7,4,'2021-06-08')
```

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

✓ 1 row inserted. (Query took 0.0360 seconds.)

```
INSERT INTO `shipment` VALUES (8,3,'2021-06-08')
```

Console

+ Options

orderNo	warehouseNo	shipdate
1	5	2020-06-08
2	2	2020-06-08
3	6	2020-06-08
4	1	2020-06-08
5	6	2020-06-08
6	5	2020-06-08
7	4	2020-06-08
8	3	2020-06-08

iii. Produce a listing: CUSTNAME, #oforders, AVG_ORDER_AMT, where the middle column is the total numbers of orders by the customer and the last column is the average order amount for that customer.

Showing rows 0 - 4 (5 total, Query took 0.0156 seconds.) [cname: AMY... - TERRY...]

```
select c.cname, count(o.orderNo) as Number_of_order, avg(o.ordamt) from customer c, orderTable o where c.custNo=o.custNo group by c.cname  
order by c.cname asc
```

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

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

+ Options

	← ↑ →	cname	Number_of_order	avg(o.ordamt)		
<input type="checkbox"/>	Edit	Copy	Delete	Amy	1	1100.0000
<input type="checkbox"/>	Edit	Copy	Delete	Charles	1	1600.0000
<input type="checkbox"/>	Edit	Copy	Delete	Jake	2	1250.0000
<input type="checkbox"/>	Edit	Copy	Delete	Rosa	2	1599.5000
<input type="checkbox"/>	Edit	Copy	Delete	Terry	2	1795.0000

iv. List the order# for orders that were shipped from all warehouses that the company has in a specific city.

✓ Showing rows 0 - 2 (3 total, Query took 0.0090 seconds.)

```
select DISTINCT orderNo from shipment where warehouseNo in( SELECT warehouseNo from warehouse where city='Bengaluru')
```

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

orderNo

3

4

5

v. Demonstrate how you delete item# 10 from the ITEM table and make that field null in the ORDER_ITEM table.

✓ 1 row affected. (Query took 0.1134 seconds.)

On delete set null used at the end of foreign key definiton while creating order item table hence the item number deleted will automatically be set to null in order item `delete from item where itemNo=10`

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

✓ Showing rows 0 - 9 (10 total, Query took 0.0020 seconds.)

SELECT * FROM `orderitem`

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

orderNo	itemNo	qty
1	9	1
2	8	1
3	7	1
4	6	1
5	5	1
6	4	1
7	3	1
8	NULL	1
8	1	1
7	2	8

Show all

Number of rows:

25

Filter rows:

Search this table

Sort by key:

None

PROGRAM 7: BOOK DEALER DATABASE

The following tables are maintained by a book dealer:

AUTHOR(author-id: int, name: String, city: String, country: String)

PUBLISHER(publisher-id: int, name: String, city: String, country: String)

CATALOG (book-id: int, title: String, author-id: int, publisher-id: int, category-id: int, year: int, price: int)

CATEGORY(category-id: int, description: String)

ORDER-DETAILS(order-no: int, book-id: int, quantity: int)

i. Create the above tables by properly specifying the primary keys and the foreign keys.

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0010 seconds.)

```
use bookDealer
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.3290 seconds.)

```
CREATE TABLE author ( Author_id INT PRIMARY KEY, Name VARCHAR(20), City VARCHAR(20), Country VARCHAR(20) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2630 seconds.)

```
CREATE TABLE publisher( Publisher_id INT PRIMARY KEY, Name VARCHAR(20), City VARCHAR(20), Country VARCHAR(20) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.7960 seconds.)

```
CREATE TABLE category ( Category_id INT PRIMARY KEY, Description VARCHAR(30) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2740 seconds.)

```
Create TABLE catalogue( Book_id INT PRIMARY KEY, Book_title VARCHAR(30), Author_id INT, Publisher_id INT, Category_id INT, CYear INT, Price INT, FOREIGN KEY(author_id) REFERENCES author(author_id) on UPDATE cascade on DELETE cascade, FOREIGN KEY(publisher_id) REFERENCES publisher(publisher_id) on UPDATE cascade on DELETE cascade, FOREIGN KEY(category_id) REFERENCES category(category_id) on UPDATE cascade on DELETE CASCADE )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.3600 seconds.)

```
CREATE TABLE orderdetails( Order_no INT PRIMARY KEY, Book_id INT, Quantity INT, FOREIGN KEY(book_id) REFERENCES catalogue(book_id) on UPDATE cascade on DELETE CASCADE )
```

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

Table	Action	Rows	Type	Collation	Size	Overhead
author		0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
catalogue		0	InnoDB	utf8mb4_general_ci	64.0 KiB	-
category		0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
orderdetails		0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
publisher		0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
5 tables	Sum	0	InnoDB	utf8mb4_general_ci	144.0 KiB	0 B

ii. Enter at least five tuples for each relation.

✓ 1 row inserted. (Query took 0.0430 seconds.)

```
INSERT INTO author VALUES (1,'John McCarthy','Chicago','USA')
```

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

✓ 1 row inserted. (Query took 0.1210 seconds.)

```
INSERT INTO author VALUES (2,'Dan','California','USA')
```

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

✓ 1 row inserted. (Query took 0.0420 seconds.)

```
INSERT INTO author VALUES (3,'Chetan Bhagat','Mumbai','India')
```

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

✓ 1 row inserted. (Query took 0.0470 seconds.)

```
INSERT INTO author VALUES (4,'John Green','Berlin','Germany')
```

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

✓ 1 row inserted. (Query took 0.0260 seconds.)

```
INSERT INTO author VALUES (5,'JK Rowling','London','England')
```

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

Showing rows 0 - 4 (5 total, Query took 0.0030 seconds.)

SELECT * FROM `author`

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

				Author_id	Name	City	Country
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	John McCarthy	Chicago	USA
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Dan	California	USA
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Chetan Bhagat	Mumbai	India
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	John Green	Berlin	Germany
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	JK Rowling	London	England



Check all

With selected:  Edit

 Copy

 Delete

 Export

✓ 1 row inserted. (Query took 0.0550 seconds.)

```
INSERT INTO publisher VALUES (1,'Rupa','Delhi','India')
```

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

✓ 1 row inserted. (Query took 0.0830 seconds.)

```
INSERT INTO publisher VALUES (2,'Bloomsbury','London','England')
```

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

✓ 1 row inserted. (Query took 0.0440 seconds.)

```
INSERT INTO publisher VALUES (3,'Pearson','London','England')
```

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

✓ 1 row inserted. (Query took 0.0320 seconds.)

```
INSERT INTO publisher VALUES (4,'Scholastic','Washington','USA')
```

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

✓ 1 row inserted. (Query took 0.0300 seconds.)

```
INSERT INTO publisher VALUES (5,'stefan','Berlin','Germany')
```

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

✓ Showing rows 0 - 4 (5 total, Query took 0.0030 seconds.)

SELECT * FROM `publisher`

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

				Publisher_id	Name	City	Country
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Rupa	Delhi	India
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Bloomsbury	London	England
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Pearson	London	England
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	Scholastic	Washington	USA
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	stefan	Berlin	Germany



Check all

With selected:  Edit



✓ 1 row inserted. (Query took 0.0490 seconds.)

```
INSERT INTO `catalogue` VALUES (1,'Harry Potter 1',5,1,1,2002,600)
```

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

✓ 1 row inserted. (Query took 0.0980 seconds.)

```
INSERT INTO `catalogue` VALUES(2,'Harry Potter 2',5,2,1,2005,650)
```

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

✓ 1 row inserted. (Query took 0.0390 seconds.)

```
INSERT INTO `catalogue` VALUES (3,'Two States',3,4,1,2009,65)
```

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

✓ 1 row inserted. (Query took 0.0290 seconds.)

```
INSERT INTO `catalogue` VALUES (4,'3 Mistakes of my life',3,4,1,2007,55)
```

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

✓ 1 row inserted. (Query took 0.0340 seconds.)

```
INSERT INTO `catalogue` VALUES(5,'Da Vinci Code',2,3,1,2004,450)
```

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

✓ 1 row inserted. (Query took 0.0340 seconds.)

```
INSERT INTO `catalogue` VALUES (6,'Angels and Demons',2,3,1,2003,350)
```

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

✓ 1 row inserted. (Query took 0.0290 seconds.)

```
INSERT INTO `catalogue` VALUES (7,'Artificial Intelligence',1,2,2,1970,500)
```

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

Showing rows 0 - 6 (7 total, Query took 0.0020 seconds.)

select * from catalogue

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

Show all

Number of rows:

25

Filter rows:

Search this table

Sort by key:

None

+ Options

				Book_id	Book_title	Author_id	Publisher_id	Category_id	CYear	Price
<input type="checkbox"/>				1	Harry Potter 1	5	1	1	2002	600
<input type="checkbox"/>				2	Harry Potter 2	5	2	1	2005	650
<input type="checkbox"/>				3	Two States	3	4	1	2009	65
<input type="checkbox"/>				4	3 Mistakes of my life	3	4	1	2007	55
<input type="checkbox"/>				5	Da Vinci Code	2	3	1	2004	450
<input type="checkbox"/>				6	Angels and Demons	2	3	1	2003	350
<input type="checkbox"/>				7	Artificial Intelligence	1	2	2	1970	500



Check all

With selected:

 1 row inserted. (Query took 0.0510 seconds.)

`Insert INTO category VALUES (1,'Fiction')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.1900 seconds.)

`Insert INTO category VALUES(2,'Non-Fiction')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0520 seconds.)

`Insert INTO category VALUES(3,'thriller')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0310 seconds.)

`Insert INTO category VALUES(4,'action')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

Showing rows 0 - 3 (4 total, Query took 0.0030 seconds.)

SELECT * FROM `category`

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

← →

				Category_id	Description
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Fiction
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Non-Fiction
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	thriller
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	action



Check all

With selected:

 Edit

 Copy

 Delete

 Export

✓ 1 row inserted. (Query took 0.0420 seconds.)

```
INSERT INTO orderdetails VALUES (101,1,5)
```

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

✓ 1 row inserted. (Query took 0.0720 seconds.)

```
INSERT INTO orderdetails VALUES (102,2,7)
```

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

✓ 1 row inserted. (Query took 0.0380 seconds.)

```
INSERT INTO orderdetails VALUES (103,3,15)
```

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

✓ 1 row inserted. (Query took 0.0370 seconds.)

```
INSERT INTO orderdetails VALUES (104,4,11)
```

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

✓ 1 row inserted. (Query took 0.0350 seconds.)

```
INSERT INTO orderdetails VALUES (105,5,9)
```

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

✓ 1 row inserted. (Query took 0.0360 seconds.)

```
INSERT INTO orderdetails VALUES (106,6,8)
```

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

✓ 1 row inserted. (Query took 0.0350 seconds.)

```
INSERT INTO orderdetails VALUES (107,7,2)
```

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

✓ 1 row inserted. (Query took 0.2310 seconds.)

```
INSERT INTO orderdetails VALUES (108,4,3)
```

Showing rows 0 - 7 (8 total, Query took 0.0020 seconds.)

SELECT * FROM `orderdetails`

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 →

				Order_no	Book_id	Quantity
<input type="checkbox"/>	 Edit	 Copy	 Delete	101	1	5
<input type="checkbox"/>	 Edit	 Copy	 Delete	102	2	7
<input type="checkbox"/>	 Edit	 Copy	 Delete	103	3	15
<input type="checkbox"/>	 Edit	 Copy	 Delete	104	4	11
<input type="checkbox"/>	 Edit	 Copy	 Delete	105	5	9
<input type="checkbox"/>	 Edit	 Copy	 Delete	106	6	8
<input type="checkbox"/>	 Edit	 Copy	 Delete	107	7	2
<input type="checkbox"/>	 Edit	 Copy	 Delete	108	4	3



Check all

With selected:

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iii. Give the details of the authors who have 2 or more books in the catalog and the price of the books in the catalog and the year of publication is after 2000.

Showing rows 0 - 2 (3 total, Query took 0.0050 seconds.)

```
SELECT * FROM author WHERE author_id IN (SELECT author_id FROM catalogue WHERE CYear>2000 GROUP BY author_id HAVING COUNT(*)>=2)
```

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

				Author_id	Name	City	Country
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Dan	California	USA
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	Chetan Bhagat	Mumbai	India
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	JK Rowling	London	England

◀ □ Check all □ With selected: ⌂ Edit ⌂ Copy ⌂ Delete ⌂ Export

iv. Find the author of the book which has maximum sales.

Showing rows 0 - 0 (1 total, Query took 0.0060 seconds.)

```
SELECT name FROM author a,catalogue c WHERE a.author_id=c.author_id AND book_id IN (SELECT book_id FROM orderdetails WHERE quantity= (SELECT MAX(quantity) FROM orderdetails))
```

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

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

+ Options

name
Chetan Bhagat

v. Demonstrate how you increase the price of books published by a specific publisher by 10%.

✓ 2 rows affected. (Query took 0.1050 seconds.)

```
UPDATE catalogue SET price=1.1*price WHERE publisher_id IN (SELECT publisher_id FROM publisher WHERE Name='Scholastic')
```

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

✓ Showing rows 0 - 6 (7 total, Query took 0.0020 seconds.)

```
SELECT * FROM `catalogue`
```

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_id	Book_title	Author_id	Publisher_id	Category_id	CYear	Price			
<input type="checkbox"/>		Edit		Copy		Delete	1	Harry Potter 1	5	1	2002	600
<input type="checkbox"/>		Edit		Copy		Delete	2	Harry Potter 2	5	2	2005	650
<input type="checkbox"/>		Edit		Copy		Delete	3	Two States	3	4	2009	72
<input type="checkbox"/>		Edit		Copy		Delete	4	3 Mistakes of my life	3	4	2007	61
<input type="checkbox"/>		Edit		Copy		Delete	5	Da Vinci Code	2	3	2004	450
<input type="checkbox"/>		Edit		Copy		Delete	6	Angels and Demons	2	3	2003	350
<input type="checkbox"/>		Edit		Copy		Delete	7	Artificial Intelligence	1	2	1970	500



Check all

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PROGRAM 8. STUDENT ENROLLMENT DATABASE

Consider the following database of student enrollment in courses and books adopted for each course.

STUDENT (regno: String, name: String, major: String, bdate: date)

COURSE (course #: int, cname: String, dept: String)

ENROLL (regno: String, cname: String, sem: int, marks: int)

BOOK_ADOPTION (course #: int, sem: int, book-ISBN: int)

TEXT(book-ISBN:int, book-title:String, publisher:String, author:String)

i. Create the above tables by properly specifying the primary keys and the foreign keys

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0020 seconds.)

```
use studentenrollment
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.5680 seconds.)

```
CREATE TABLE student( regno VARCHAR(10) PRIMARY KEY, name VARCHAR(20), major VARCHAR(20), bdate DATE )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1630 seconds.)

```
CREATE TABLE course( courseno INT , cname VARCHAR(20) UNIQUE, dept VARCHAR(20), PRIMARY KEY(courseno) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2480 seconds.)

```
CREATE TABLE enroll( regno VARCHAR(10), cname VARCHAR(20), sem INT, marks INT, FOREIGN KEY (regno) REFERENCES student(regno) on delete cascade on UPDATE CASCADE , FOREIGN KEY (cname) REFERENCES course(cname) on delete cascade on UPDATE CASCADE )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1600 seconds.)

```
CREATE TABLE text_book( book_isbn INT(5) PRIMARY KEY, book_title VARCHAR(20), publisher VARCHAR(20), author VARCHAR(20) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2080 seconds.)

```
CREATE TABLE book_adoption( courseno INT, sem INT, book_isbn INT(5), FOREIGN KEY (courseno) REFERENCES course (courseno) on DELETE CASCADE on UPDATE CASCADE, FOREIGN KEY (book_isbn) REFERENCES text_book(book_isbn) on DELETE CASCADE on UPDATE CASCADE )
```

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

Table	Action	Rows	Type	Collation	Size	Overhead
book_adoption		0	InnoDB	utf8mb4_general_ci	48.0 Kib	-
course		0	InnoDB	utf8mb4_general_ci	32.0 Kib	-
enroll		0	InnoDB	utf8mb4_general_ci	48.0 Kib	-
student		0	InnoDB	utf8mb4_general_ci	16.0 Kib	-
text_book		0	InnoDB	utf8mb4_general_ci	16.0 Kib	-
5 tables	Sum	0	InnoDB	utf8mb4_general_ci	160.0 Kib	0 B

ii. Enter at least five tuples for each relation.

✓ 6 rows inserted. (Query took 0.1110 seconds.)

```
INSERT INTO student VALUES ('1BM19CS182','Ross','sr','2001-03-02'), ('1BM19CS120','Rachel','sr','2001-02-03'),  
('1BM19CS147','Chandler','sr','2001-10-10'), ('1BM19CS002','Monica','jr','2001-01-09'), ('1BM19CS019','Joey','jr','2001-07-20'),  
('1BM19CS200','Phoebe','jr','2001-02-01')
```

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

+ Options

				regno	name	major	bdate
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS002	Monica	jr	2001-01-09
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS019	Joey	jr	2001-07-20
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS120	Rachel	sr	2001-02-03
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS147	Chandler	sr	2001-10-10
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS182	Ross	sr	2001-03-02
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS200	Phoebe	jr	2001-02-01

✓ 5 rows inserted. (Query took 0.0920 seconds.)

```
INSERT INTO course VALUES (101,'OS','CSE'), (102,'DS','CSE'), (103,'JAVA','ISE'), (104,'DBMS','CSE'), (105,'EC','ECE')
```

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

+ Options

				courseno	cname	dept
<input type="checkbox"/>	 Edit	 Copy	 Delete	101	OS	CSE
<input type="checkbox"/>	 Edit	 Copy	 Delete	102	DS	CSE
<input type="checkbox"/>	 Edit	 Copy	 Delete	103	JAVA	ISE
<input type="checkbox"/>	 Edit	 Copy	 Delete	104	DBMS	CSE
<input type="checkbox"/>	 Edit	 Copy	 Delete	105	EC	ECE

↑ Check all With selected:  Edit  Copy  Delete  Export

✓ 6 rows inserted. (Query took 0.0900 seconds.)

```
INSERT INTO enroll VALUES ('1BM19CS002','JAVA',3,100), ('1BM19CS019','DBMS',3,100), ('1BM19CS120','JAVA',5,100),  
('1BM19CS147','OS',5,100), ('1BM19CS147','DS',5,100), ('1BM19CS182','OS',5,100)
```

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

+ Options

regno	cname	sem	marks
1BM19CS002	JAVA	3	100
1BM19CS019	DBMS	3	100
1BM19CS120	JAVA	5	100
1BM19CS147	OS	5	100
1BM19CS147	DS	5	100
1BM19CS182	OS	5	100

8 rows inserted. (Query took 0.1230 seconds.)

```
INSERT INTO text_book VALUES (903,'SCHEDULING','PEARSON','PATIL'), (900,'OPERATING SYS','PEARSON','LELAND'), (901,'CIRCUITS','HALL INDIA','BOB'), (902,'JAVA','PETERSON','JACOB'), (904,'DATABASE SYSTEMS','PEARSON','JACOB'), (905,'DATABASE MANAGER','PEARSON','BOB'), (906,'Basics of EC','HALL INDIA','SUMIT'), (910,'DATABASE SYSTEMS','PEARSON','SCHIELD')
```

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

1 row inserted. (Query took 0.0750 seconds.)

```
INSERT INTO `text_book` VALUES (999,'DS Simplified','Pearson','Sharma')
```

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

			book_isbn	book_title	publisher	author
<input type="checkbox"/>	Edit	Copy	900	OPERATING SYS	PEARSON	LELAND
<input type="checkbox"/>	Edit	Copy	901	CIRCUITS	HALL INDIA	BOB
<input type="checkbox"/>	Edit	Copy	902	JAVA	PETERSON	JACOB
<input type="checkbox"/>	Edit	Copy	903	SCHEDULING	PEARSON	PATIL
<input type="checkbox"/>	Edit	Copy	904	DATABASE SYSTEMS	PEARSON	JACOB
<input type="checkbox"/>	Edit	Copy	905	DATABASE MANAGER	PEARSON	BOB
<input type="checkbox"/>	Edit	Copy	906	BASICS OF EC	HALL INDIA	SUMIT
<input type="checkbox"/>	Edit	Copy	910	DATABASE SYSTEMS	PEARSON	SCHIELD
<input type="checkbox"/>	Edit	Copy	999	DS Simplified	Pearson	Sharma

Check all With selected: Edit Copy Delete Export

✓ 9 rows inserted. (Query took 0.0760 seconds.)

```
INSERT INTO book_adoption VALUES (101,5,900), (101,5,903), (104,5,904), (104,3,910), (103,3,902), (104,5,905), (103,5,902), (105,3,906),  
(102,5,999)
```

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

+ Options

coursesno

sem

book_isbn

101

5

900

101

5

903

104

5

904

104

3

910

103

3

902

104

5

905

103

5

902

105

3

906

102

5

999

iii. Demonstrate how you add a new text book to the database and make this book be adopted by some department.

✓ 1 row inserted. (Query took 0.0740 seconds.)

```
INSERT INTO `book_adoption` VALUES (102,3,955)
```

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

✓ 1 row inserted. (Query took 0.0480 seconds.)

```
insert into text_book values(955,'Seriously DS','Pearson','Shashank')
```

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

✓ Showing rows 0 - 9 (10 total, Query took 0.0020 seconds.)

SELECT * FROM `text_book`

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

Show all

Number of rows:

25

Filter rows:

Search this table

Sort by key:

None

+ Options

			book_isbn	book_title	publisher	author
<input type="checkbox"/>	 Edit	 Copy	 Delete	900	OPERATING SYS	PEARSON
<input type="checkbox"/>	 Edit	 Copy	 Delete	901	CIRCUITS	HALL INDIA
<input type="checkbox"/>	 Edit	 Copy	 Delete	902	JAVA	PETERSON
<input type="checkbox"/>	 Edit	 Copy	 Delete	903	SCHEDULING	PEARSON
<input type="checkbox"/>	 Edit	 Copy	 Delete	904	DATABASE SYSTEMS	PEARSON
<input type="checkbox"/>	 Edit	 Copy	 Delete	905	DATABASE MANAGER	PEARSON
<input type="checkbox"/>	 Edit	 Copy	 Delete	906	BASICS OF EC	HALL INDIA
<input type="checkbox"/>	 Edit	 Copy	 Delete	910	DATABASE SYSTEMS	PEARSON
<input type="checkbox"/>	 Edit	 Copy	 Delete	955	Seriously DS	Pearson
<input type="checkbox"/>	 Edit	 Copy	 Delete	999	DS Simplified	Shashank



Check all

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Showing rows 0 - 9 (10 total, Query took 0.0030 seconds.) [courseno: 105... - 101...]

SELECT * FROM `book_adoption` ORDER BY `courseno` DESC

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

Show all

Number of rows: 25 ▾

Filter rows: Search this table

Sort by key: courseno (DESC) ▾

+ Options

courseno	sem	book_isbn
105	3	906
104	5	905
104	3	910
104	5	904
103	3	902
103	5	902
102	3	955
102	5	999
101	5	903
101	5	900

iv. Produce a list of text books (include Course #, Book-ISBN, Book-title) in the alphabetical order for courses offered by the ‘CS’ department that use more than two books.

✓ Showing rows 0 - 2 (3 total, Query took 0.0110 seconds.) [book_title: DATABASE MANAGER... - DATABASE SYSTEMS...]

```
SELECT c.courseno,tb.book_isbn,tb.book_title FROM course c,book_adoption ba,text_book tb WHERE c.courseno=ba.courseno AND ba.book_isbn=tb.book_isbn AND c.dept='CSE' AND ( SELECT COUNT(book_isbn) FROM book_adoption b WHERE c.courseno=b.courseno)>2 ORDER BY tb.book_title
```

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

Show all

Number of rows: 25 ▾

Filter rows: Search this table

+ Options

courseno	book_isbn	book_title
104	905	DATABASE MANAGER
104	904	DATABASE SYSTEMS
104	910	DATABASE SYSTEMS

v. List any department that has all its adopted books published by a specific publisher.

✓ Showing rows 0 - 0 (1 total, Query took 0.0160 seconds.)

```
SELECT DISTINCT cc.dept FROM course cc WHERE cc.dept IN ( SELECT c.dept FROM course c,book_adoption b,text_book tb WHERE c.courseno=b.courseno AND tb.book_isbn=b.book_isbn AND tb.publisher='PEARSON') AND cc.dept NOT IN (SELECT c1.dept FROM course c1,book_adoption b1,text_book tb1 WHERE c1.courseno=b1.courseno AND tb1.book_isbn=b1.book_isbn AND tb1.publisher != 'PEARSON')
```

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

Show all

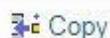
Number of rows:

25

Filter rows:

Search this table

+ Options



dept

CSE

PROGRAM 9: MOVIE DATABASE

Consider the schema for Movie Database:

ACTOR(Act_id, Act_Name, Act_Gender)

DIRECTOR(Dir_id, Dir_Name, Dir_Phone)

MOVIES(Mov_id, Mov_Title, Mov_Year, Mov_Lang, Dir_id)

MOVIE_CAST(Act_id, Mov_id, Role)

RATING(Mov_id, Rev_Stars)

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.3704 seconds.)

```
CREATE TABLE ACTOR ( ACT_ID INT (3) PRIMARY KEY, ACT_NAME VARCHAR (20), ACT_GENDER VARCHAR (1) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2360 seconds.)

```
CREATE TABLE DIRECTOR ( DIR_ID INT (3) PRIMARY KEY, DIR_NAME VARCHAR (20), DIR_PHONE INT (10) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1630 seconds.)

```
CREATE TABLE MOVIES ( MOV_ID INT (4) PRIMARY KEY , MOV_TITLE VARCHAR (25), MOV_YEAR INT (4), MOV_LANG VARCHAR (12), DIR_ID INT (3),  
FOREIGN KEY (DIR_ID) REFERENCES DIRECTOR (DIR_ID) on UPDATE CASCADE ON DELETE CASCADE)
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1658 seconds.)

```
CREATE TABLE MOVIE_CAST ( ACT_ID INT (3), MOV_ID INT (4), ROLE VARCHAR (10), FOREIGN KEY (ACT_ID) REFERENCES ACTOR (ACT_ID) on UPDATE  
CASCADE ON DELETE CASCADE, FOREIGN KEY (MOV_ID) REFERENCES MOVIES (MOV_ID) on UPDATE CASCADE ON DELETE CASCADE)
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2214 seconds.)

```
CREATE TABLE RATING ( MOV_ID INT (4), REV_STARS VARCHAR (25), FOREIGN KEY (MOV_ID) REFERENCES MOVIES (MOV_ID) on UPDATE CASCADE ON DELETE  
CASCADE)
```

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

Table	Action	Rows	Type	Collation	Size	Overhead
actor	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
director	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
movies	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
movie_cast	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
rating	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
5 tables	Sum	0	InnoDB	utf8mb4_general_ci	144.0 KiB	0 B

 1 row inserted. (Query took 0.0422 seconds.)

```
INSERT INTO `actor` VALUES (101,'Hrithik','M')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0626 seconds.)

```
INSERT INTO `actor` VALUES (102,'Shahrukh','M')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0472 seconds.)

```
INSERT INTO `actor` VALUES (103,'Anushka','F')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0312 seconds.)

```
INSERT INTO `actor` VALUES (104,'Kareena','F')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0478 seconds.)

```
INSERT INTO `actor` VALUES (105,'Saif','M')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ Showing rows 0 - 4 (5 total, Query took 0.0020 seconds.)

SELECT * FROM `actor`

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

				ACT_ID	ACT_NAME	ACT_GENDER
<input type="checkbox"/>	 Edit	 Copy	 Delete	101	Hrithik	M
<input type="checkbox"/>	 Edit	 Copy	 Delete	102	Shahrukh	M
<input type="checkbox"/>	 Edit	 Copy	 Delete	103	Anushka	F
<input type="checkbox"/>	 Edit	 Copy	 Delete	104	Kareena	F
<input type="checkbox"/>	 Edit	 Copy	 Delete	105	Saif	M



Check all

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✓ 1 row inserted. (Query took 0.0392 seconds.)

```
INSERT INTO `director` VALUES (201, 'Steven Spielberg', 987654320)
```

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

✓ 1 row inserted. (Query took 0.1312 seconds.)

```
INSERT INTO `director` VALUES (202, 'Rajmouli', 987654321)
```

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

✓ 1 row inserted. (Query took 0.0186 seconds.)

```
INSERT INTO `director` VALUES (203, 'Tarantino', 987654322)
```

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

✓ 1 row inserted. (Query took 0.0382 seconds.)

```
INSERT INTO `director` VALUES (204, 'Hitchcock', 987654323)
```

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

✓ 1 row inserted. (Query took 0.0312 seconds.)

```
INSERT INTO `director` VALUES (205, 'Anurag Kashyap', 987654324)
```

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

Showing rows 0 - 4 (5 total, Query took 0.0010 seconds.)

SELECT * FROM `director`

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

	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	DIR_ID	DIR_NAME	DIR_PHONE
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	201	Steven Spielberg	987654320
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	202	Rajmouli	987654321
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	203	Tarantino	987654322
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	204	Hitchcock	987654323
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	205	Anurag Kashyap	987654324

✓ 1 row inserted. (Query took 0.0512 seconds.)

```
INSERT INTO `movies` VALUES (301,'Malang',2019,'Hindi',201)
```

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

✓ 1 row inserted. (Query took 0.1844 seconds.)

```
INSERT INTO `movies` VALUES (302,'Bahubali',2018,'Hindi',203)
```

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

✓ 1 row inserted. (Query took 0.1278 seconds.)

```
INSERT INTO `movies` VALUES (303,'DDLJ',1990,'Hindi',202)
```

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

✓ 1 row inserted. (Query took 0.0226 seconds.)

```
INSERT INTO `movies` VALUES (304,'Ramayan',2001,'Hindi',204)
```

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

✓ 1 row inserted. (Query took 0.0468 seconds.)

```
INSERT INTO `movies` VALUES (305,'Tenet-Hindi',2021,'Hindi',205)
```

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

✓ Showing rows 0 - 4 (5 total, Query took 0.0020 seconds.)

SELECT * FROM `movies`

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

			MOV_ID	MOV_TITLE	MOV_YEAR	MOV_LANG	DIR_ID
<input type="checkbox"/>	 Edit	 Copy	 Delete	301	Malang	2019	Hindi
<input type="checkbox"/>	 Edit	 Copy	 Delete	302	Bahubali	2018	Hindi
<input type="checkbox"/>	 Edit	 Copy	 Delete	303	DDLJ	1990	Hindi
<input type="checkbox"/>	 Edit	 Copy	 Delete	304	Ramayan	2001	Hindi
<input type="checkbox"/>	 Edit	 Copy	 Delete	305	Tenet-Hindi	2021	Hindi



Check all

With selected:

 Edit

 Copy

 Delete

 Export

Show all

Number of rows:

25 ▾

Filter rows:

Search this table

Sort by key:

None

✓ 1 row inserted. (Query took 0.0402 seconds.)

```
INSERT INTO `movie_cast` VALUES (102,301,'Lead')
```

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

✓ 1 row inserted. (Query took 0.0844 seconds.)

```
INSERT INTO `movie_cast` VALUES (101,302,'Lead')
```

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

✓ 1 row inserted. (Query took 0.0456 seconds.)

```
INSERT INTO `movie_cast` VALUES (105,303,'Lead')
```

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

✓ 1 row inserted. (Query took 0.0410 seconds.)

```
INSERT INTO `movie_cast` VALUES (103,304,'Supporting')
```

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

✓ 1 row inserted. (Query took 0.0310 seconds.)

```
INSERT INTO `movie_cast` VALUES (104,305,'Supporting')
```

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

✓ 1 row inserted. (Query took 0.0320 seconds.)

```
INSERT INTO `movie_cast` VALUES (103,301,'Supporting')
```

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

✓ Showing rows 0 - 5 (6 total, Query took 0.0010 seconds.)

SELECT * FROM `movie_cast`

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

ACT_ID	MOV_ID	ROLE
102	301	Lead
101	302	Lead
105	303	Lead
103	304	Supporting
104	305	Supporting
103	301	Supporting

 1 row inserted. (Query took 0.0798 seconds.)

`INSERT INTO `RATING` VALUES (301,4)`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.1168 seconds.)

`INSERT INTO `RATING` VALUES (302,2)`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0430 seconds.)

`INSERT INTO `RATING` VALUES (303, 5)`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0320 seconds.)

`INSERT INTO `RATING` VALUES (304, 4)`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0570 seconds.)

`INSERT INTO `RATING` VALUES (302,5)`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0550 seconds.)

`INSERT INTO `RATING` VALUES (303, 1)`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ Showing rows 0 - 5 (6 total, Query took 0.0020 seconds.)

SELECT * FROM `rating`

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

MOV_ID	REV_STARS
301	4
302	2
303	5
304	4
302	5
303	1

Write SQL queries to

- i. List the titles of all movies directed by 'Hitchcock'.

Showing rows 0 - 0 (1 total, Query took 0.0156 seconds.)

```
SELECT MOV_TITLE FROM MOVIES WHERE DIR_ID IN (SELECT DIR_ID FROM DIRECTOR WHERE DIR_NAME = 'HITCHCOCK')
```

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

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

+ Options

MOV_TITLE
Ramayan

Check all With selected:

ii. Find the movie names where one or more actors acted in two or more movies.

✓ Showing rows 0 - 1 (2 total, Query took 0.0156 seconds.)

```
SELECT MOV_TITLE FROM MOVIES M, MOVIE_CAST C WHERE M.MOV_ID=C.MOV_ID AND ACT_ID IN (SELECT ACT_ID FROM MOVIE_CAST GROUP BY ACT_ID HAVING COUNT(ACT_ID)>1)
```

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

Show all

| Number of rows:

25 ▾

Filter rows:

Search this table

+ Options

MOV_TITLE

Malang

Ramayan

iii. List all actors who acted in a movie before 2000 and also in a movie after 2015 (use JOIN operation).

✓ Showing rows 0 - 4 (5 total, Query took 0.0070 seconds.)

```
SELECT ACT_NAME, MOV_TITLE, MOV_YEAR FROM ACTOR A JOIN MOVIE_CAST C ON A.ACT_ID=C.ACT_ID JOIN MOVIES M ON C.MOV_ID=M.MOV_ID WHERE M.MOV_YEAR NOT BETWEEN 2000 AND 2015
```

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

ACT_NAME

MOV_TITLE

MOV_YEAR

Shahrukh

Malang

2019

Hrithik

Bahubali

2018

Saif

DDLJ

1990

Kareena

Tenet-Hindi

2021

Anushka

Malang

2019

Show all

Number of rows:

25

Filter rows:

Search this table

Sort by key:

None

iv. Find the title of movies and number of stars for each movie that has at least one rating and find the highest number of stars that movie received. Sort the result by movie title.

Showing rows 0 - 3 (4 total, Query took 0.0312 seconds.) [MOV_TITLE: BAHUBALI... - RAMAYAN...]

```
SELECT MOV_TITLE,MAX(REV_STARS) AS Max_Rating FROM MOVIES M,RATING R WHERE M.MOV_ID=R.MOV_ID GROUP BY M.MOV_TITLE HAVING MAX(REV_STARS)>0 ORDER BY M.MOV_TITLE
```

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

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

+ Options

MOV_TITLE	Max_Rating
Bahubali	5
DDLJ	5
Malang	4
Ramayan	4

v. Update rating of all movies directed by ‘Steven Spielberg’ to 5.

✓ 1 row affected. (Query took 0.0634 seconds.)

```
UPDATE RATING SET REV_STARS=5 WHERE MOV_ID IN (SELECT MOV_ID FROM MOVIES WHERE DIR_ID IN (SELECT DIR_ID FROM DIRECTOR WHERE DIR_NAME = 'STEVEN SPIELBERG'))
```

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

✓ Showing rows 0 - 5 (6 total, Query took 0.0010 seconds.)

```
SELECT * FROM `rating`
```

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

MOV_ID	REV_STARS
301	5
302	2
303	5
304	4
302	5
303	1

PROGRAM 10:COLLEGE DATABASE

Consider the schema for College Database:

STUDENT(USN, SName, Address, Phone, Gender)

SEMSEC(SSID, Sem, Sec)

CLASS(USN, SSID)

SUBJECT(Subcode, Title, Sem, Credits)

IAMARKS(USN, Subcode, SSID, Test1, Test2, Test3, FinalIA)

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1704 seconds.)

```
CREATE TABLE STUDENT ( USN VARCHAR (10) PRIMARY KEY, SNAME VARCHAR (25), ADDRESS VARCHAR (25), PHONE INT (11), GENDER CHAR (1))
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.2136 seconds.)

```
CREATE TABLE SEMSEC ( SSID VARCHAR (5) PRIMARY KEY, SEM INT (1), SEC CHAR (1))
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.4516 seconds.)

```
CREATE TABLE CLASS ( USN VARCHAR (10), SSID VARCHAR (5), FOREIGN KEY (USN) REFERENCES STUDENT (USN), FOREIGN KEY (SSID) REFERENCES SEMSEC (SSID))
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1810 seconds.)

```
CREATE TABLE SUBJECT ( SUBCODE VARCHAR (8) PRIMARY KEY, TITLE VARCHAR (20), SEM INT(1), CREDITS INT (1) )
```

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

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.1800 seconds.)

```
CREATE TABLE IAMARKS ( USN VARCHAR (10), SUBCODE VARCHAR (8), SSID VARCHAR (5), TEST1 INT , TEST2 INT , TEST3 INT , FINALIA INT , FOREIGN KEY (USN) REFERENCES STUDENT (USN)ON UPDATE CASCADE ON DELETE CASCADE, FOREIGN KEY (SUBCODE) REFERENCES SUBJECT (SUBCODE)ON UPDATE CASCADE ON DELETE CASCADE, FOREIGN KEY (SSID) REFERENCES SEMSEC (SSID)ON UPDATE CASCADE ON DELETE CASCADE)
```

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

Your SQL query has been executed successfully.

```
ALTER TABLE `class` ADD PRIMARY KEY(`USN`);
```

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

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> class	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
<input type="checkbox"/> iamarks	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	64.0 KiB	-
<input type="checkbox"/> semsec	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> student	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> subject	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
5 tables	Sum			0 InnoDB utf8mb4_general_ci	160.0 KiB	0 B

Check all

With selected:

 1 row inserted. (Query took 0.0306 seconds.)

```
INSERT INTO STUDENT VALUES ('1BM19CS147','SHASHANK','BENGALURU', 1877881122,'M')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0316 seconds.)

```
INSERT INTO STUDENT VALUES ('1BM19CS148','SAUNDARYA','BENGALURU',1722829912,'F')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0468 seconds.)

```
INSERT INTO STUDENT VALUES ('1BM19CS149','TINA','BENGALURU', 1712312312,'F')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0512 seconds.)

```
INSERT INTO STUDENT VALUES ('1BM19CS140','SUPRITA','MANGALURU',1877881122,'F')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0322 seconds.)

```
INSERT INTO STUDENT VALUES ('1BM19CS141','ABHAY','BENGALURU', 1900211201,'M')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0310 seconds.)

```
INSERT INTO STUDENT VALUES ('1BM19CS142','BHASKARA','BENGALURU',1923211099,'M')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0312 seconds.)

```
INSERT INTO STUDENT VALUES ('1BM19CS143','ASMITA','BENGALURU', 1894737377,'F')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ Showing rows 0 - 6 (7 total, Query took 0.0020 seconds.)

SELECT * FROM `student`

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 →	USN▼	SNAME	ADDRESS	PHONE	GENDER		
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS140	SUPRITA	MANGALURU	1877881122	F
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS141	ABHAY	BENGALURU	1900211201	M
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS142	BHASKARA	BENGALURU	1923211099	M
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS143	ASMITA	BENGALURU	1894737377	F
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS147	SHASHANK	BENGALURU	1877881122	M
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS148	SAUNDARYA	BENGALURU	1722829912	F
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS149	TINA	BENGALURU	1712312312	F



Check all

With selected:

 Edit

 Copy

 Delete

 Export

 1 row inserted. (Query took 0.0690 seconds.)

```
INSERT INTO SEMSEC VALUES ('CSE8A', 8,'A')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.1488 seconds.)

```
INSERT INTO SEMSEC VALUES ('CSE8B', 8,'B')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0532 seconds.)

```
INSERT INTO SEMSEC VALUES ('CSE8C', 8,'C')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0442 seconds.)

```
INSERT INTO SEMSEC VALUES ('CSE7A', 7,'A')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0410 seconds.)

```
INSERT INTO SEMSEC VALUES ('CSE7B', 7,'B')
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ Showing rows 0 - 4 (5 total, Query took 0.0020 seconds.)

SELECT * FROM `semsec`

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

				SSID	SEM	SEC
<input type="checkbox"/>	 Edit	 Copy	 Delete	CSE7A	7	A
<input type="checkbox"/>	 Edit	 Copy	 Delete	CSE7B	7	B
<input type="checkbox"/>	 Edit	 Copy	 Delete	CSE8A	8	A
<input type="checkbox"/>	 Edit	 Copy	 Delete	CSE8B	8	B
<input type="checkbox"/>	 Edit	 Copy	 Delete	CSE8C	8	C



Check all

With selected:

 Edit

 Copy

 Delete

 Export

 1 row inserted. (Query took 0.0552 seconds.)

`INSERT INTO CLASS VALUES ('18M19CS147','CSE8A')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0814 seconds.)

`INSERT INTO CLASS VALUES ('18M19CS148','CSE8A')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0300 seconds.)

`INSERT INTO CLASS VALUES ('18M19CS149','CSE8B')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0482 seconds.)

`INSERT INTO CLASS VALUES ('18M19CS140','CSE8C')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.1624 seconds.)

`INSERT INTO CLASS VALUES ('18M19CS141','CSE7A')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0312 seconds.)

`INSERT INTO CLASS VALUES ('18M19CS142','CSE7A')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

 1 row inserted. (Query took 0.0312 seconds.)

`INSERT INTO CLASS VALUES ('18M19CS143','CSE7A')`

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ Showing rows 0 - 6 (7 total, Query took 0.0030 seconds.)

SELECT * FROM `class`

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

			USN	SSID	
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS141	CSE7A
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS142	CSE7A
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS143	CSE7A
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS147	CSE8A
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS148	CSE8A
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS149	CSE8B
<input type="checkbox"/>	 Edit	 Copy	 Delete	1BM19CS140	CSE8C

Check all

With selected:

 Edit

 Copy

 Delete

 Export

✓ 1 row inserted. (Query took 0.0488 seconds.)

```
INSERT INTO SUBJECT VALUES ('10CS81','ACA', 8, 4)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0780 seconds.)

```
INSERT INTO SUBJECT VALUES ('10CS82','SSM', 8, 4)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0150 seconds.)

```
INSERT INTO SUBJECT VALUES ('10CS83','NM', 8, 4)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.1682 seconds.)

```
INSERT INTO SUBJECT VALUES ('10CS73','PTW', 7, 4)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0340 seconds.)

```
INSERT INTO SUBJECT VALUES ('10CS74','DWDM', 7, 4)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ 1 row inserted. (Query took 0.0276 seconds.)

```
INSERT INTO SUBJECT VALUES ('10CS75','JAVA', 7, 4)
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

✓ Showing rows 0 - 5 (6 total, Query took 0.0030 seconds.)

SELECT * FROM `subject`

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

				SUBCODE	TITLE	SEM	CREDITS
<input type="checkbox"/>	 Edit	 Copy	 Delete	10CS73	PTW	7	4
<input type="checkbox"/>	 Edit	 Copy	 Delete	10CS74	DWDM	7	4
<input type="checkbox"/>	 Edit	 Copy	 Delete	10CS75	JAVA	7	4
<input type="checkbox"/>	 Edit	 Copy	 Delete	10CS81	ACA	8	4
<input type="checkbox"/>	 Edit	 Copy	 Delete	10CS82	SSM	8	4
<input type="checkbox"/>	 Edit	 Copy	 Delete	10CS83	NM	8	4



Check all

With selected:

 Edit

 Copy

 Delete

 Export

9 rows inserted. (Query took 0.0850 seconds.)

```
INSERT INTO `iamarks`(`USN`, `SUBCODE`, `SSID`, `TEST1`, `TEST2`, `TEST3`) VALUES ('1BM19CS147', '10CS81', 'CSE8A', 15, 16, 18),  
('1BM19CS148', '10CS82', 'CSE8A', 12, 19, 14), ('1BM19CS149', '10CS83', 'CSE8B', 19, 15, 20), ('1BM19CS140', '10CS81', 'CSE8C', 20, 16,  
19), ('1BM19CS141', '10CS75', 'CSE7A', 15, 15, 12), ('1BM19CS142', '10CS75', 'CSE7A', 15, 15, 12), ('1BM19CS143', '10CS75', 'CSE7A', 15,  
15, 12), ('1BM19CS143', '10CS73', 'CSE7A', 30, 30, 40), ('1BM19CS149', '10CS81', 'CSE8B', 40, 40, 0)
```

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

Showing rows 0 - 8 (9 total, Query took 0.0020 seconds.)

```
SELECT * FROM `iamarks`
```

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

USN	SUBCODE	SSID	TEST1	TEST2	TEST3	FINALIA
1BM19CS147	10CS81	CSE8A	15	16	18	NULL
1BM19CS148	10CS82	CSE8A	12	19	14	NULL
1BM19CS149	10CS83	CSE8B	19	15	20	NULL
1BM19CS140	10CS81	CSE8C	20	16	19	NULL
1BM19CS141	10CS75	CSE7A	15	15	12	NULL
1BM19CS142	10CS75	CSE7A	15	15	12	NULL
1BM19CS143	10CS75	CSE7A	15	15	12	NULL
1BM19CS143	10CS73	CSE7A	30	30	40	NULL
1BM19CS149	10CS81	CSE8B	40	40	0	NULL

Write SQL queries to

- i. List all the student details studying in fourth semester ‘C’ section.

Showing rows 0 - 0 (1 total, Query took 0.0156 seconds.)

```
SELECT S.* , SS.SEM, SS.SEC FROM STUDENT S, SEMSEC SS, CLASS C WHERE S.USN = C.USN AND SS.SSID = C.SSID AND SS.SEM = 8 AND SS.SEC='C'
```

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

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

+ Options

USN	SNAME	ADDRESS	PHONE	GENDER	SEM	SEC
1BM19CS140	SUPRITA	MANGALURU	1877881122	F	8	C

ii. Compute the total number of male and female students in each semester and in each section.

Showing rows 0 - 5 (6 total, Query took 0.0000 seconds.)

```
SELECT SS.SEM, SS.SEC, S.GENDER, COUNT(S.GENDER) FROM STUDENT S, SEMSEC SS, CLASS C WHERE S.USN = C.USN AND SS.SSID = C.SSID GROUP BY SS.SEM, SS.SEC, S.GENDER ORDER BY SEM
```

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

Show all

Number of rows:

25

Filter rows: Search this table

+ Options

SEM	SEC	GENDER	COUNT(S.GENDER)
7	A	F	1
7	A	M	2
8	A	F	1
8	A	M	1
8	B	F	1
8	C	F	1

iii. Create a view of Test1 marks of student USN ‘1BI15CS101’ in all subjects.(USN **1BM19CS149** USED IN THIS CASE)

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0206 seconds.)

```
CREATE VIEW view_marks AS SELECT TEST1, SUBCODE FROM IAMARKS WHERE USN = '1BM19CS149'
```

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

⚠ Current selection does not contain a unique column. Grid edit, Edit, Copy and Delete features may result in undesired behavior. 

✓ Showing rows 0 - 1 (2 total, Query took 0.0000 seconds.)

```
select * from view_marks
```

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

Show all

Number of rows:

25

Filter rows:

Search this table

+ Options

	← ↑ →	TEST1	SUBCODE
<input type="checkbox"/>	 Edit	 Copy	 Delete 19 10CS83
<input type="checkbox"/>	 Edit	 Copy	 Delete 40 10CS81



Check all

With selected:

 Edit

 Copy

 Delete

 Export

iv. Calculate the FinalIA (average of best two test marks) and update the corresponding table for all students.

UPDATE `iamarks` SET FINALIA= CASE WHEN TEST1>=TEST3 AND TEST2>=TEST3 THEN (TEST1+TEST2)/2 WHEN TEST2>=TEST1 AND TEST3>=TEST1 THEN (TEST2+TEST3)/2 WHEN TEST1>=TEST2 AND TEST3>=TEST2 THEN (TEST1+TEST3)/2 end

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

Showing rows 0 - 8 (9 total, Query took 0.0020 seconds.)

SELECT * FROM `iamarks`

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

USN	SUBCODE	SSID	TEST1	TEST2	TEST3	FINALIA
1BM19CS147	10CS81	CSE8A	15	16	18	17
1BM19CS148	10CS82	CSE8A	12	19	14	17
1BM19CS149	10CS83	CSE8B	19	15	20	20
1BM19CS140	10CS81	CSE8C	20	16	19	20
1BM19CS141	10CS75	CSE7A	15	15	12	15
<u>1BM19CS142</u>	10CS75	CSE7A	15	15	12	15
1BM19CS143	10CS75	CSE7A	15	15	12	15
1BM19CS143	10CS73	CSE7A	30	30	40	35
1BM19CS149	10CS81	CSE8B	40	40	0	40

v. Categorize students based on the following criterion:

RANGE TAKEN AS

If FinalIA = 17 to 20 then CAT = ‘Outstanding’ **(34 TO 40)**

If FinalIA = 12 to 16 then CAT = ‘Average’ **(24 TO 32)**

If FinalIA < 12 then CAT = ‘Weak’ **(<24)**

Due to finalIA in range(0 to 40)

Give these details only for 8th semester A, B, and C section students.

✓ Showing rows 0 - 4 (5 total, Query took 0.0156 seconds.)

```
SELECT S.usn,S.SNAME,SUB.SUBCODE,IA.FINALIA, (CASE WHEN IA.FINALIA BETWEEN 34 AND 40 THEN 'OUTSTANDING' WHEN IA.FINALIA BETWEEN 24 AND 32 THEN 'AVERAGE' ELSE 'WEAK' END) AS CATEGORY FROM STUDENT S, SEMSEC SS, IAMARKS IA, SUBJECT SUB WHERE S.USN = IA.USN AND SS.SSID = IA.SSID AND SUB.SUBCODE = IA.SUBCODE AND SUBSEM = 8
```

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

Show all

Number of rows:

25 ▾

Filter rows:

Search this table

+ Options

usn	SNAME	SUBCODE	FINALIA	CATEGORY
1BM19CS147	SHASHANK	10CS81	17	WEAK
1BM19CS148	SAUNDARYA	10CS82	17	WEAK
1BM19CS149	TINA	10CS83	20	WEAK
1BM19CS140	SUPRITA	10CS81	20	WEAK
1BM19CS149	TINA	10CS81	40	OUTSTANDING

Show all

Number of rows:

25 ▾

Filter rows:

Search this table