

## **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	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
car	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
owns	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
participated	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	64.0 KiB	-
person	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
5 tables	<b>Sum</b>	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')
```

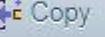
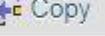
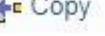
[ Edit inline ] [ Edit ] [ Create PHP code ]

✓ 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

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 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"/>	 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	9	2021-02-02	BEL Road
<input type="checkbox"/>	 Edit	 Copy	 Delete	12	2021-01-01	M.G.Road

Check all With selected:  Edit  Copy  Delete  Export

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	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
<input type="checkbox"/> borrower	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
<input type="checkbox"/> branch	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> depositor	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> loan	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
<b>5 tables</b>	<b>Sum</b>			<b>0 InnoDB utf8mb4_general_ci</b>	<b>144.0 KiB</b>	<b>0 B</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:				

 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	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
enrolled	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
faculty	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
student	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
4 tables	<b>Sum</b>	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.)

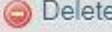
```
select c cname from class c where room='R128' or c cname in (select e cname from enrolled e group by e cname having count(e cname)>=5)
```

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

← T →

			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	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	8	InnoDB	utf8mb4_general_ci	32.0 KiB	-
enrolled	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	10	InnoDB	utf8mb4_general_ci	48.0 KiB	-
faculty	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
student	<a href="#">Browse</a> <a href="#">Structure</a> <a href="#">Search</a> <a href="#">Insert</a> <a href="#">Empty</a> <a href="#">Drop</a>	6	InnoDB	utf8mb4_general_ci	16.0 KiB	-
4 tables	<a href="#">Sum</a>	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

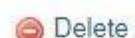


Check all

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  Search this table

+ Options	eid	max(a.cruisingrange)
<input type="checkbox"/>	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

▲