

SAKSHI ROY

1BM19CS140

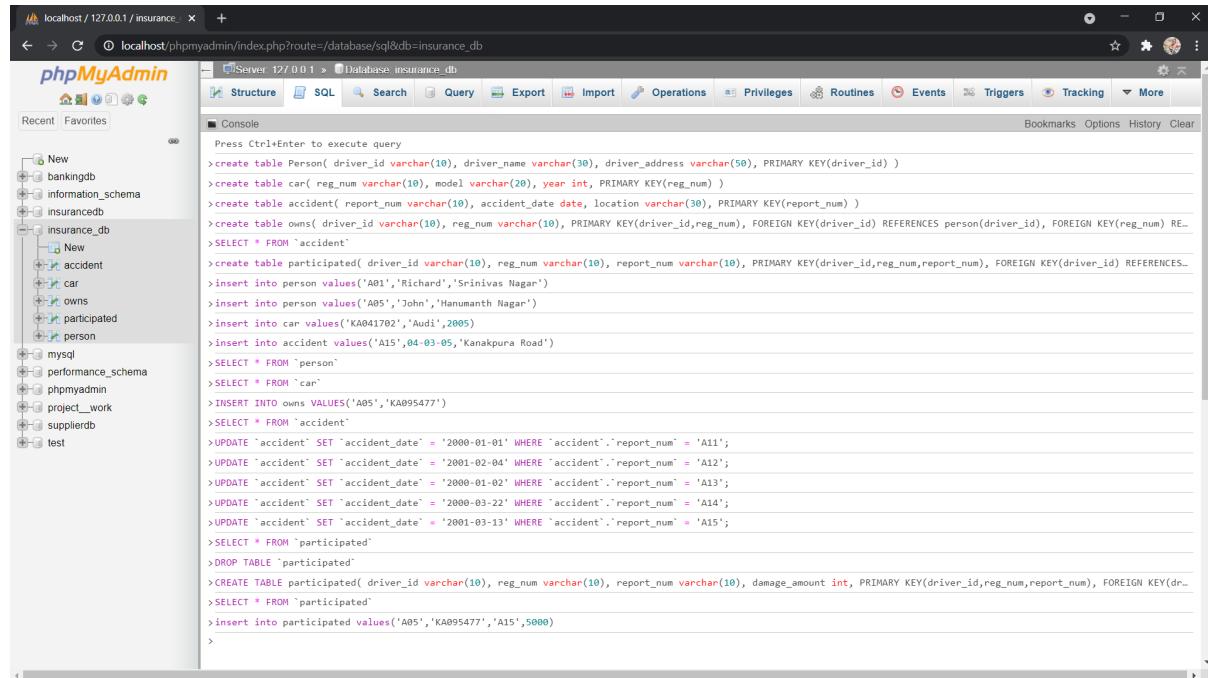
CSE DEPARTMENT

4-C

DBMS LAB RECORD

LAB1

TABLES(QUERY)



```
localhost / 127.0.0.1 / insurance_db +  
localhost/phpmyadmin/index.php?route=/database/sql&db=insurance_db  
phpMyAdmin  
Recent Favorites  
New bankingdb information_schema insurededb insurance_db New accident car owns participated person mysql performance_schema phpmyadmin project_work supplierdb test  
Server 127.0.0.1 > Database insurance_db  
Structure SQL Search Query Export Import Operations Privileges Routines Events Triggers Tracking More  
Console Bookmarks Options History Clear  
Press Ctrl+Enter to execute query  
>create table Person( driver_id varchar(10), driver_name varchar(30), driver_address varchar(50), PRIMARY KEY(driver_id) )  
>create table car( reg_num varchar(10), model varchar(20), year int, PRIMARY KEY(reg_num) )  
>create table accident( report_num varchar(10), accident_date date, location varchar(30), PRIMARY KEY(report_num) )  
>create table owns( driver_id varchar(10), reg_num varchar(10), PRIMARY KEY(driver_id,reg_num), FOREIGN KEY(driver_id) REFERENCES person(driver_id), FOREIGN KEY(reg_num) REFERENCES car(model) )  
>SELECT * FROM `accident`  
>create table participated( driver_id varchar(10), reg_num varchar(10), report_num varchar(10), PRIMARY KEY(driver_id,reg_num,report_num), FOREIGN KEY(driver_id) REFERENCES person(driver_id), FOREIGN KEY(reg_num) REFERENCES accident(report_num) )  
>insert into person values('A01','Richard','Srinivas Nagar')  
>insert into person values('A05','John','Hanumanth Nagar')  
>insert into car values('KA041702','Audi',2005)  
>insert into accident values('A15','04-03-05','Kanakpura Road')  
>SELECT * FROM `person`  
>SELECT * FROM `car`  
>INSERT INTO `owns` VALUES('A05','KA095477')  
>SELECT * FROM `accident`  
>UPDATE `accident` SET `accident_date` = '2000-01-01' WHERE `accident`.`report_num` = 'A11';  
>UPDATE `accident` SET `accident_date` = '2001-02-04' WHERE `accident`.`report_num` = 'A12';  
>UPDATE `accident` SET `accident_date` = '2000-01-02' WHERE `accident`.`report_num` = 'A13';  
>UPDATE `accident` SET `accident_date` = '2000-03-22' WHERE `accident`.`report_num` = 'A14';  
>UPDATE `accident` SET `accident_date` = '2001-03-13' WHERE `accident`.`report_num` = 'A15';  
>SELECT * FROM `participated`  
>DROP TABLE `participated`  
>CREATE TABLE participated( driver_id varchar(10), reg_num varchar(10), report_num varchar(10), damage_amount int, PRIMARY KEY(driver_id,reg_num,report_num), FOREIGN KEY(driver_id) REFERENCES person(driver_id), FOREIGN KEY(report_num) REFERENCES accident(report_num) )  
>SELECT * FROM `participated`  
>insert into participated values('A05','KA095477','A15',5000)  
>
```

PERSON TABLE



Edit with WPS Office

localhost / 127.0.0.1 / insurance

localhost/phpmyadmin/index.php?route=/sql&server=1&db=insurance\_db&table=car&pos=0

**phpMyAdmin**

Recent Favorites

- New
- bankingdb
- information\_schema
- insurededb
- insurance\_db
- New
- accident
- car
- owns
- participated
- person
- mysql
- performance\_schema
- phpmyadmin
- project\_work
- supplierdb
- test

Server 127.0.0.1 > Database insurance\_db > Table car

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 4 (5 total, Query took 0.0005 seconds.)

SELECT \* FROM `car`

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

		reg_num	model	year		
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	KA031181	Lancer	1957
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	KA041702	Audi	2005
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	KA052250	Indica	1990
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	KA053408	Honda	2008
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	KA095477	Toyota	1998

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

+ Options [Edit](#) [Copy](#) [Delete](#) [Export](#)

Query results operations

[Print](#) [Copy to clipboard](#) [Export](#) [Display chart](#) [Create view](#)

Bookmark this SQL query

Label:  Let every user access this bookmark

Bookmark this SQL query

Console Bookmarks Options History Clear

## CARTABLE

localhost / 127.0.0.1 / insurance

localhost/phpmyadmin/index.php?route=/sql&server=1&db=insurance\_db&table=accident&pos=0

**phpMyAdmin**

Recent Favorites

- New
- bankingdb
- information\_schema
- insurededb
- insurance\_db
- New
- accident
- car
- owns
- participated
- person
- mysql
- performance\_schema
- phpmyadmin
- project\_work
- supplierdb
- test

Server 127.0.0.1 > Database insurance\_db > Table accident

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 5 (6 total, Query took 0.0005 seconds.)

SELECT \* FROM `accident`

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

	report_num	accident_date	location
<input type="checkbox"/>	A11	2010-01-01	Mysore Road
<input type="checkbox"/>	A12	2011-02-04	Southend Circle
<input type="checkbox"/>	A13	2008-01-02	Bullettemple Road
<input type="checkbox"/>	A14	2008-03-22	Mysore Road
<input type="checkbox"/>	A15	2006-03-13	Kanakpura Road
<input type="checkbox"/>	A16	0000-00-00	New Delhi

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

+ Options [Edit](#) [Copy](#) [Delete](#) [Export](#)

Query results operations

[Print](#) [Copy to clipboard](#) [Export](#) [Display chart](#) [Create view](#)

Bookmark this SQL query

Label:  Let every user access this bookmark

Bookmark this SQL query

Console Bookmarks Options History Clear

## ACCIDENT TABLE



Edit with WPS Office

localhost / 127.0.0.1 / insurance

localhost/phpmyadmin/index.php?route=/sql&server=1&db=insurance\_db&table=owns&pos=0

**phpMyAdmin**

Recent Favorites

- New
- bankingdb
- information\_schema
- insurededb
- insurance\_db
- New
- accident
- car
- owns
- participated
- person
- mysql
- performance\_schema
- phpmyadmin
- project\_work
- supplierdb
- test

Server 127.0.0.1 > Database insurance\_db > Table owns

Showing rows 0 - 4 (total, Query took 0.0005 seconds.)

SELECT \* FROM `owns`

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

	driver_id	reg_num
<input type="checkbox"/>	A01	KA031181
<input type="checkbox"/>	A02	KA041702
<input type="checkbox"/>	A03	KA052250
<input type="checkbox"/>	A04	KA053408
<input type="checkbox"/>	A05	KA095477

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

+ Options  Check all With selected:  Edit  Copy  Delete  Export

Query results operations

Print  Copy to clipboard  Export  Display chart  Create view

Bookmark this SQL query

Label:  Let every user access this bookmark

Bookmark this SQL query

Console

Bookmarks Options History Clear

## OWNS TABLE

localhost / 127.0.0.1 / insurance

localhost/phpmyadmin/index.php?route=/sql&server=1&db=insurance\_db&table=participated&pos=0

**phpMyAdmin**

Recent Favorites

- New
- bankingdb
- information\_schema
- insurededb
- insurance\_db
- New
- accident
- car
- owns
- participated
- person
- mysql
- performance\_schema
- phpmyadmin
- project\_work
- supplierdb
- test

Server 127.0.0.1 > Database insurance\_db > Table participated

Showing rows 0 - 4 (total, Query took 0.0005 seconds.)

SELECT \* FROM `participated`

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

	driver_id	reg_num	report_num	damage_amount
<input type="checkbox"/>	A01	KA031181	A11	1000
<input type="checkbox"/>	A02	KA041702	A12	2000
<input type="checkbox"/>	A03	KA052250	A13	3000
<input type="checkbox"/>	A04	KA053408	A14	4000
<input type="checkbox"/>	A05	KA095477	A15	5000

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

+ Options  Check all With selected:  Edit  Copy  Delete  Export

Query results operations

Print  Copy to clipboard  Export  Display chart  Create view

Bookmark this SQL query

Label:  Let every user access this bookmark

Bookmark this SQL query

Console

Bookmarks Options History Clear

## PARTICIPATED TABLE



Edit with WPS Office

Showing rows 0 - 4 (total: 5) (Query took 0.0005 seconds.)

`SELECT * FROM 'participated'`

driver_id	reg_num	report_num	damage_amount
A01	KA031181	A11	1000
A02	KA041702	A12	2000
A03	KA052250	A13	3000
A04	KA053408	A14	4000
A05	KA095477	A15	5000

## Demonstrate how you

- Update the damage amount to 25000 for the car with a specific reg\_num (example 'KA053408') for which the accident report number was 12.
- Add a new accident to the database

1 row affected. (Query took 0.0133 seconds.)

`UPDATE participated SET damage_amount = 25000 WHERE reg_num = 'KA041702' AND report_num = 'A12'`



Edit with WPS Office

localhost / 127.0.0.1 / insurance SQL UPDATE Statement +

localhost/phpmyadmin/index.php?route=/sql&server=1&db=insurance\_db&table=participated&pos=0

**Showing rows 0 - 4 (total: 5) Query took 0.0006 seconds.**

`SELECT * FROM 'participated'`

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 `driver_id reg_num report_num damage_amount`

	driver_id	reg_num	report_num	damage_amount
<input type="checkbox"/>	A01	KA031181	A11	1000
<input type="checkbox"/>	A02	KA041702	A12	25000
<input type="checkbox"/>	A03	KA052250	A13	3000
<input type="checkbox"/>	A04	KA053408	A14	4000
<input type="checkbox"/>	A05	KA095477	A15	5000

Check all With selected: Edit Copy Delete Export

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

Query results operations

Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query Label: Let every user access this bookmark

Bookmark this SQL query Console Bookmarks Options History Clear

localhost / 127.0.0.1 / insurance SQL ALTER TABLE Statement +

localhost/phpmyadmin/index.php?route=/database/sql&db=insurance\_db

**1 row inserted. (Query took 0.0178 seconds.)**

`insert into accident values('A16',2001-03-11,'New Delhi')`

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

Warning #1265 Data truncated for column 'accident\_date' at row 1

Show query box

Console Bookmarks Options History Clear

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



Edit with WPS Office

The screenshot shows the phpMyAdmin interface for the 'insurance\_db' database. The left sidebar lists various databases and tables. The main area displays the results of a SQL query:

```
select count(distinct driver_id) from participated p, accident a where p.report_num=a.report_num and a.accident_date like '2008%'
```

The result is 2, indicating two distinct drivers involved in accidents in 2008.

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

The screenshot shows the phpMyAdmin interface for the 'insurance\_db' database. The left sidebar lists various databases and tables. The main area displays the results of a SQL query:

```
select count(report_num) from car c, participated p where c.reg_num=p.reg_num and c.model='Lancer'
```

The result is 1, indicating one accident involving a car with model 'Lancer'.

## LAB 2

### TABLES

#### BANKING DATABASE



Edit with WPS Office

**Filters**

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
bankaccount	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	32.0 Kib	-
bankcustomer	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	16.0 Kib	-
branch	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	16.0 Kib	-
depositor	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	32.0 Kib	-
loan	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	32.0 Kib	-
<b>5 tables</b>	<b>Sum</b>				<b>25 InnoDB utf8mb4_general_ci</b>	<b>128.0 Kib</b>

**Create table**

Name:  Number of columns: 4

Go

## BRANCH TABLE

**Showing rows 0 - 4 (total, Query took 0.0110 seconds.)**

`SELECT * FROM `branch``

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

	branchname	branchcity	assets
<input type="checkbox"/>	SBI_Chamrajpet	Banglore	50000
<input type="checkbox"/>	SBI_Jantarmantar	Delhi	20000
<input type="checkbox"/>	SBI_ParliamentRoad	Delhi	10000
<input type="checkbox"/>	SBI_ResidencyRoad	Banglore	10000
<input type="checkbox"/>	SBI_ShivajiRoad	Banglore	20000

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

Query results operations

Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query

Label:  Let every user access this bookmark

Bookmark this SQL query

Console Bookmarks Options History Clear

## BANKACCOUNT TABLE



Edit with WPS Office

**localhost / 127.0.0.1 / bankingdb**

**phpMyAdmin**

Recent Favorites

Server 127.0.0.1 > Database bankingdb > table bankaccount

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 4 (5 total, Query took 0.0006 seconds.)

SELECT \* FROM `bankaccount`

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  Check all With selected:  Edit  Copy  Delete  Export

	account_num	branchname	balance
<input type="checkbox"/>	1	SBI_Chamrajpet	2000
<input type="checkbox"/>	2	SBI_Jantarmantar	5000
<input type="checkbox"/>	3	SBI_ParliamentRoad	6000
<input type="checkbox"/>	4	SBI_ResidencyRoad	9000
<input type="checkbox"/>	5	SBI_ShivajiRoad	8000

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

Query results operations

Print  Copy to clipboard  Export  Display chart  Create view

Bookmark this SQL query

Label:  Let every user access this bookmark

Bookmark this SQL query

Console Bookmarks Options History Clear

## BANK CUSTOMER TABLE

**localhost / 127.0.0.1 / bankingdb**

**phpMyAdmin**

Recent Favorites

Server 127.0.0.1 > Database bankingdb > table bankcustomer

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 4 (5 total, Query took 0.0006 seconds.)

SELECT \* FROM `bankcustomer`

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  Check all With selected:  Edit  Copy  Delete  Export

	customername	customerstreet	customercity
<input type="checkbox"/>	Avinash	Bull Temple	Bangalore
<input type="checkbox"/>	Dinesh	Basvanagudi	Bangalore
<input type="checkbox"/>	Neha	Rivera	Delhi
<input type="checkbox"/>	Rahul	Alpha	Delhi
<input type="checkbox"/>	Ritesh	Bull Temple	Bangalore

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

Query results operations

Print  Copy to clipboard  Export  Display chart  Create view

Bookmark this SQL query

Label:  Let every user access this bookmark

Bookmark this SQL query

Console Bookmarks Options History Clear

## DEPOSITOR TABLE

The screenshot shows the phpMyAdmin interface for the 'depositor' table in the 'bankingdb' database. The table has columns: customername and account\_num. The data is as follows:

	customername	account_num
1	Avinash	1
2	Dinesh	2
3	Neha	3
4	Rahul	4
5	Ritesh	5

## LOAN TABLE

The screenshot shows the phpMyAdmin interface for the 'loan' table in the 'bankingdb' database. The table has columns: loannumber, branchname, and amount. The data is as follows:

	loannumber	branchname	amount
1	SBI_Champapet	1000	
2	SBI_ResidencyRoad	2000	
3	SBI_ShivajiRoad	3000	
4	SBL_ParliamentRoad	4000	
5	SBL_Jantarmantar	5000	

Find all the customers who have at least two accounts at the *Main* branch (ex. SBI\_ResidencyRoad).



Edit with WPS Office

The screenshot shows the phpMyAdmin interface for a database named 'bankingdb'. The left sidebar lists various databases and tables. The main area displays a query result for the 'bankcustomer' table. The query is:

```
select c.customername from bankcustomer c where exists( select d.customername, count(d.customername) from depositor d, bankaccount ba where d.customername=c.customername AND d.account_num=ba.account_num AND ba.branchname='SBI_ResidencyRoad' group by d.customername having count(d.customername)>2 )
```

The results show an empty set (0 rows). Below the results, there are options to bookmark the query.

Find all the customers who have an account at *all* the branches located in a specific city (Ex. Delhi).

The screenshot shows the phpMyAdmin interface for a database named 'bankingdb'. The left sidebar lists various databases and tables. The main area displays a query result for the 'bankcustomer' table. The query is:

```
select c.customername from bankcustomer c where not exists( select branchname from branch where branchcity='Delhi' and branchname not in (select ba.branchname from depositor d, bankaccount ba where d.account_num=ba.account_num and c.customername=d.customername))
```

The results show an empty set (0 rows). Below the results, there are options to bookmark the query.

IF DEPOSITOR TABLE LOOKS LIKE



Edit with WPS Office

Showing rows 0 - 5 (6 total, Query took 0.0004 seconds.)

```
SELECT * FROM `depositor`
```

	customername	account_num
<input type="checkbox"/>	Avinash	1
<input type="checkbox"/>	Dinesh	2
<input type="checkbox"/>	Neha	2
<input type="checkbox"/>	Neha	3
<input type="checkbox"/>	Rahul	4
<input type="checkbox"/>	Ritesh	5

## THEN OUTPUT IS

Showing rows 0 - 0 (1 total, Query took 0.0029 seconds.)

```
select c.customername from bankcustomer c where not exists( select branchname from branch where branchcity='Delhi' and branchname not in (select ba.branchname from depositor d, bankaccount ba where d.account_num=ba.account_num AND c.customername=d.customername))
```

customername
Neha

Demonstrate how you delete all account tuples at every branch located in a specific city (Ex. Bombay).



Edit with WPS Office

The screenshot shows the phpMyAdmin interface for the 'bankingdb' database. A query was run:

```
delete from bankaccount where branchname in( select branchname from branch where branchcity='Bombay' )
```

The result message indicates 0 rows affected (Query took 0.0122 seconds).

## LAB 3

### TABLES

#### SUPPLIER TABLE

The screenshot shows the phpMyAdmin interface for the 'supplierdb' database, specifically viewing the 'suppliers' table.

Table structure:

```
CREATE TABLE `suppliers` (
  `sid` int(11) NOT NULL,
  `sname` varchar(20) NOT NULL,
  `address` varchar(50) NOT NULL
)
```

Table data:

sid	sname	address
1	Vishal	Kanpur
2	Sakshi	Delhi
3	Srishti	Jaipur
4	Sara	Ahemdabad
5	Tanul	Lucknow

#### PARTS TABLE



Edit with WPS Office

Showing rows 0 - 4 (total, Query took 0.0005 seconds.)

`SELECT * FROM `parts``

	pid	pname	colour
<input type="checkbox"/>	10	part1	red
<input type="checkbox"/>	11	part2	green
<input type="checkbox"/>	12	part3	orange
<input type="checkbox"/>	13	part4	pink
<input type="checkbox"/>	14	part5	blue

## CATALOG TABLE

Showing rows 0 - 8 (total, Query took 0.0006 seconds.)

`SELECT * FROM `catalog``

	sid	pid	cost
<input type="checkbox"/>	1	10	395
<input type="checkbox"/>	1	11	1000
<input type="checkbox"/>	1	12	2000
<input type="checkbox"/>	1	13	1000
<input type="checkbox"/>	1	14	1000
<input type="checkbox"/>	2	11	290
<input type="checkbox"/>	3	12	390
<input type="checkbox"/>	4	13	490
<input type="checkbox"/>	5	14	590

Find names of parts for which there is some supplier:



Edit with WPS Office

The screenshot shows the phpMyAdmin interface for the 'supplierdb' database. The left sidebar lists databases like bankingdb, information\_schema, mysql, etc., and the current database 'supplierdb'. The 'parts' table is selected. The table has 5 rows:

		pname
	Edit	part1
	Edit	part2
	Edit	part3
	Edit	part4
	Edit	part5

Below the table, the SQL query used is:

```
SELECT DISTINCT P.pname FROM parts P, catalog C WHERE P.pid=C.pid
```

Find the names of the suppliers who supply every part:

The screenshot shows the phpMyAdmin interface for the 'supplierdb' database. The 'suppliers' table is selected. It contains 1 row:

	sname
	Vishal

The SQL query used is:

```
SELECT s.sname from suppliers s where not exists( select p.pid from parts p where p.pid not in ( select c.pid from catalog c where c.sid=s.sid))
```

Find the names of suppliers who supply every red part.



Edit with WPS Office

The screenshot shows the phpMyAdmin interface for a database named 'supplierdb'. The left sidebar lists various databases and tables. The main area displays a query result for the 'suppliers' table. The query is:

```
select s.sname from suppliers s where not exists( select p.pid from parts p where p.colour='red' and p.pid not in (select c.pid from catalog c, parts p where c.sid=s.sid and c.pid=p.pid and p.colour='red'))
```

The result shows one row: 'Vishal'.

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

The screenshot shows the phpMyAdmin interface for a database named 'supplierdb'. The left sidebar lists various databases and tables. The main area displays a query result for the 'catalog' table. The query is:

```
select distinct c.sid from catalog c where c.cost > (select avg(c1.cost) from catalog c1 where c1.pid=c.pid)
```

The result shows one row: '1'.

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



Edit with WPS Office

Showing rows 0 - 4 (total, Query took 0.0047 seconds.)

```
select p.pid, s.sname from parts p, suppliers s, catalog c where c.pid=p.pid and c.sid=s.sid and c.cost=(select max(c1.cost) from catalog c1 where c1.pid=p.pid)
```

pid	sname
10	Vishal
11	Vishal
12	Vishal
13	Vishal
14	Vishal

## LAB 4

### TABLES

#### STUDENT TABLE

Showing rows 0 - 5 (total, Query took 0.0013 seconds.)

```
SELECT * FROM `student`
```

	snum	sname	major	lvl	age
<input type="checkbox"/>	1	jhon	CS	Sr	19
<input type="checkbox"/>	2	Smith	CS	Jr	20
<input type="checkbox"/>	3	Jacob	CV	Sr	20
<input type="checkbox"/>	4	Tom	CS	Jr	20
<input type="checkbox"/>	5	Rahul	CS	Jr	20
<input type="checkbox"/>	6	Rita	CS	Sr	21

#### CLASS TABLE



Edit with WPS Office

**Showing rows 0 - 7 (8 total, Query took 0.0012 seconds.)**

**SELECT \* FROM `class`**

	cname	meets	room	fid
<input type="checkbox"/>	class1	2012-11-15 10:15:16	R1	14
<input type="checkbox"/>	class10	2012-11-15 10:15:16	R128	14
<input type="checkbox"/>	class2	2012-11-15 10:15:20	R2	12
<input type="checkbox"/>	class3	2012-11-15 10:15:25	R3	12
<input type="checkbox"/>	class4	2012-11-15 20:15:20	R4	14
<input type="checkbox"/>	class5	2012-11-15 20:15:20	R3	15
<input type="checkbox"/>	class6	2012-11-15 13:20:20	R2	14
<input type="checkbox"/>	class7	2012-11-15 10:10:10	R3	14

## ENROLLED TABLE

**Showing rows 0 - 8 (9 total, Query took 0.0014 seconds.)**

**SELECT \* FROM `enrolled`**

	snum	cname
<input type="checkbox"/>	1	class1
<input type="checkbox"/>	2	class1
<input type="checkbox"/>	2	class5
<input type="checkbox"/>	3	class3
<input type="checkbox"/>	3	class5
<input type="checkbox"/>	4	class3
<input type="checkbox"/>	4	class5
<input type="checkbox"/>	5	class4
<input type="checkbox"/>	5	class5

## FACULTY TABLE



Edit with WPS Office

Showing rows 0 - 4 (total, 5 total, Query took 0.0014 seconds.)

`SELECT * FROM `faculty``

	fid	fname	deptid
<input type="checkbox"/>	11	Harish	1000
<input type="checkbox"/>	12	MV	1000
<input type="checkbox"/>	13	Mira	1001
<input type="checkbox"/>	14	Shiva	1002
<input type="checkbox"/>	15	Nupur	1000

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

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0060 seconds.)

`SELECT DISTINCT s.sname FROM student s, class c, enrolled e, faculty f WHERE s.snum=e.snum AND e.cname=c.cname AND c.fid=f.fid AND f.fname='Harish' AND s.lvl='jr'`

sname
-------

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



Edit with WPS Office

The screenshot shows the phpMyAdmin interface for the 'student\_facultydb' database. The 'class' table is selected. A query has been run:

```
SELECT C.cname FROM class C WHERE C.room = 'R128' OR C.cname IN (SELECT E cname FROM enrolled E GROUP BY E cname HAVING COUNT(*) >= 5)
```

The results show one row: 'class10'. Below the table, there are options to print, copy to clipboard, export, or display a chart.

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

The screenshot shows the phpMyAdmin interface for the 'student\_facultydb' database. The 'student' table is selected. A query has been run:

```
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 = C1 cname AND E2 cname = C2 cname AND C1.meets = C2.meets)
```

The results show one row: 'Rahul'. Below the table, there are options to print, copy to clipboard, export, or display a chart.

**Find the names of faculty members for whom the combined enrollment of the courses that they teach is less than five**



Edit with WPS Office

Showing rows 0 - 4 (total, Query took 0.0067 seconds.)

```
SELECT DISTINCT F.fname FROM faculty F WHERE 5 > (SELECT COUNT(E.snum) FROM class C, enrolled E WHERE C.cname = E cname AND C.fid = F.fid)
```

	fname
<input type="checkbox"/>	Harish
<input type="checkbox"/>	MV
<input type="checkbox"/>	Mira
<input type="checkbox"/>	Shiva
<input type="checkbox"/>	Nupur

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

Showing rows 0 - 0 (1 total, Query took 0.0017 seconds.)

```
SELECT DISTINCT S.sname FROM student S WHERE S.snum NOT IN (SELECT E.snum FROM enrolled E )
```

	sname
<input type="checkbox"/>	Rita

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).



Edit with WPS Office

Showing rows 0 - 2 (3 total, Query took 0.0044 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 S2.age = S.age GROUP BY S2.lvl, S2.age))
```

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

## LAB 5

### TABLES

#### FLIGHTS TABLE

Showing rows 0 - 5 (6 total, Query took 0.0013 seconds.)

```
SELECT * FROM `flights`
```

	fino	departure	arrival	distance	departs	arrives	price
<input type="checkbox"/>	101	Bangalore	Delhi	2500	2005-05-13 07:15:31	2005-05-13 17:15:31	5000
<input type="checkbox"/>	102	Bangalore	Lucknow	3000	2005-05-13 07:15:31	2005-05-13 11:15:31	6000
<input type="checkbox"/>	103	Lucknow	Delhi	500	2005-05-13 12:15:31	2005-05-13 17:15:31	3000
<input type="checkbox"/>	104	Bangalore	Frankfurt	8500	2005-05-13 07:15:31	2005-05-13 23:15:31	75000
<input type="checkbox"/>	105	Kolkata	Delhi	3400	2005-05-13 07:15:31	2005-05-13 09:15:31	7000
<input type="checkbox"/>	107	Bangalore	Frankfurt	8000	2005-05-13 07:15:31	2005-05-13 22:15:31	60000

#### AIRCRAFT TABLE



Edit with WPS Office

**Aircraft Table Data:**

	aid	aname	cruisingrange
	101	747	3000
	102	Boeing	900
	103	647	800
	104	Dreamliner	10000
	105	Boeing	3500
	106	707	1500
	107	Dream	120000

## CERTIFIED TABLE

**Certified Table Data:**

	eid	aid
	701	101
	701	102
	701	105
	701	106
	702	101
	702	104
	702	107
	703	104
	703	105
	703	107
	704	104
	704	105
	704	107
	705	103

## EMPLOYEES TABLE



Edit with WPS Office

Showing rows 0 - 6 (7 total, Query took 0.0016 seconds.)

```
SELECT * FROM `employees`
```

	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	<b>eid</b>	<b>ename</b>	<b>salary</b>
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	701	A	50000
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	702	B	100000
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	703	C	150000
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	704	D	90000
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	705	E	40000
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	706	F	60000
<input type="checkbox"/>	<a href="#">Edit</a>	<a href="#">Copy</a>	<a href="#">Delete</a>	707	G	90000

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 0.0151 seconds.)

```
select distinct a.aname from aircraft a, certified c, employees e where a.aid=c.aid and c.eid=e.eid and e.salary>80000
```

<b>aname</b>
747
Dreamliner
Boeing
Dream

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.



Edit with WPS Office

The screenshot shows the phpMyAdmin interface for the 'airline\_flightdb' database. The left sidebar lists various databases, and the current table is 'certified'. A query has been run:

```
select c.eid, max(a.cruisingrange) from certified c inner join aircraft a on c.eid=a.eid GROUP BY c.eid having count(*)>3
```

The results show one row:

eid	max(a.cruisingrange)
701	3500

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

The screenshot shows the phpMyAdmin interface for the 'airline\_flightdb' database. The current table is 'employees'. A query has been run:

```
select e.e_name from employees e where e.salary < (select min(f.price) FROM flights f where f.departure='Bangalore' and f.arrival='Frankfurt')
```

The results show two rows:

e_name
A
E

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.



Edit with WPS Office

The screenshot shows the phpMyAdmin interface for the 'airline\_flightdb' database. The 'aircraft' table is selected. A query has been run to calculate the average salary of employees for different aircraft manufacturers:

```
select a.aname, avg(e.salary) from aircraft a inner join certified c on a.aid=c.aid inner join employees e on c.eid=e.eid where a.cruisingrange>1000 GROUP by a.aname
```

The results show the average salary for four manufacturers:

aname	avg(e.salary)
707	50000.0000
747	75000.0000
Boeing	96666.6667
Dream	113333.3333
Dreamliner	113333.3333

Find the names of pilots certified for some Boeing aircraft.

The screenshot shows the phpMyAdmin interface for the 'airline\_flightdb' database. The 'employees' table is selected. A query has been run to find distinct pilot names certified for Boeing aircraft:

```
select distinct eename from employees e inner join certified c on e.eid=c.eid inner join aircraft a on c.aid=a.aid where a.aname='Boeing'
```

The results show three distinct pilot names:

eename
A
C
D

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



Edit with WPS Office

Screenshot of the phpMyAdmin interface showing the 'airline\_flightdb' database and the 'aircraft' table.

The left sidebar shows the database structure:

- New
- airline\_flightdb
  - New
  - aircraft
  - certified
  - employees
  - flights
- bankingdb
- information\_schema
- insurededb
- insurance\_db
- mysql
- performance\_schema
- phpmyadmin
- project\_work
- student\_facultydb
- supplierdb
- test

The main area displays the 'aircraft' table with the following data:

	aname
1	747
2	Dreamliner
3	Boeing
4	Dream

Below the table, there are buttons for 'Edit', 'Copy', and 'Delete' for each row, along with a 'Query results operations' section containing 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view' options.

At the bottom, there is a 'Bookmark this SQL query' section with a 'Label' input field and a checkbox for 'Let every user access this bookmark'.



Edit with WPS Office