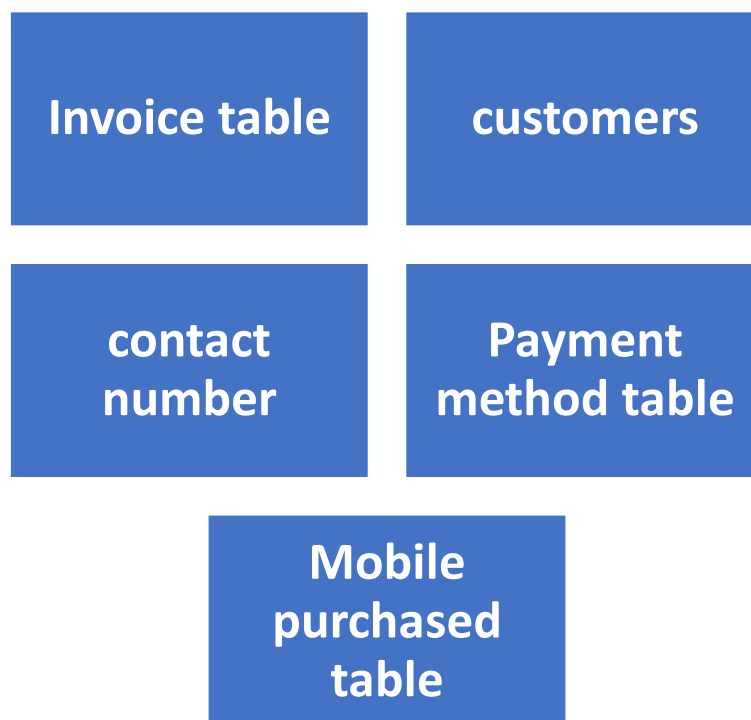


INTRODUCTION

Welcome to our SQL project on mobile shop customer data! In this project, we will be creating a database to store information about our mobile shop customers, such as their name, contact details, and purchase history. We will be using a variety of SQL commands, including Data Definition Language (DDL) commands to create and modify the structure of our database, and Data Manipulation Language (DML) commands to insert, update, and delete data in our database. We will also be using various types of joins to connect tables. By the end of this project, you will have a good understanding of how to use SQL to manage a database of customer information. Let's get started!

ER diagram



Creating database and using it

```
mysql> create database diamond_mobile;
Query OK, 1 row affected (0.05 sec)

mysql> use diamond_mobile;
Database changed
```

Describing database

```
mysql> desc customers;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| customer_id | int | NO | PRI | NULL | |
| f_name | char(30) | YES | | NULL | |
| l_name | char(30) | YES | | NULL | |
| contact_id | int | YES | UNI | NULL | |
| mobile_purchase_id | int | YES | | NULL | |
| payment_id | int | YES | | NULL | |
| invoice_id | int | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.01 sec)
```

Inserting values into table customers

```
mysql> select * from customers;
+-----+-----+-----+-----+-----+-----+-----+
| customer_id | f_name | l_name | contact_id | mobile_purchase_id | payment_id | invoice_id |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | Abhijeet | mishra | 1 | 3 | 3 | 1 |
| 2 | suraj | chand | 2 | 6 | 3 | 2 |
| 3 | chandan | kahar | 3 | 4 | 5 | 3 |
| 4 | pravin | shekhawat | 4 | 8 | 3 | 4 |
| 5 | nidhi | bhat | 5 | 8 | 2 | 5 |
| 6 | prajjwal | dohare | 6 | 9 | 4 | 6 |
| 7 | avinash | sahani | 7 | 8 | 3 | 7 |
| 8 | aniket | patil | 8 | 8 | 1 | 8 |
| 9 | abhishek | mishra | 9 | 9 | 2 | 9 |
| 10 | sunita | mishra | 10 | 6 | 3 | 10 |
| 11 | suman | shekhawat | 11 | 8 | 3 | 11 |
| 12 | ram | shekhawat | 12 | 9 | 2 | 12 |
| 13 | komal | shekhawat | 13 | 7 | 3 | 13 |
| 14 | rani | mishra | 14 | 1 | 2 | 14 |
| 15 | shivam | dubey | 15 | 6 | 4 | 15 |
| 16 | rahul | baitha | 16 | 5 | 6 | 16 |
| 17 | vikas | chand | 17 | 5 | 7 | 17 |
| 18 | archana | mishra | 18 | 8 | 5 | 18 |
| 19 | rahula | prasad | 19 | 5 | 3 | 19 |
| 20 | sarjit | rathore | 20 | 4 | 5 | 20 |
| 21 | vikram | rathore | 21 | 3 | 5 | 21 |
| 22 | yogesh | sharma | 22 | 3 | 4 | 22 |
| 23 | shushila | sharma | 23 | 6 | 3 | 23 |
| 24 | shivani | sharma | 24 | 3 | 4 | 24 |
| 25 | rupali | mishra | 25 | 3 | 4 | 25 |
+-----+-----+-----+-----+-----+-----+-----+
25 rows in set (0.00 sec)
```

Creating table contact number

```
mysql> select * from contact_number;
```

sr_no	contact_id	mobile_no
1	1	9898990000
2	1	7898990000
3	2	1122230000
4	3	3456790000
5	3	3322110000
6	4	5566780000
7	5	3344560000
8	6	7766550000
9	7	7766540000
10	8	4455670000
11	9	5500450000
12	10	6868690000
13	11	4567900000
14	11	2233450000
15	12	4455670000
16	13	4433230000
17	14	4455670000
18	15	4455670000
19	17	4455670000
20	18	8989900000
21	19	3333330000
22	19	5566770000
23	20	2233340000
24	21	4455670000
25	22	4455670000
26	23	4455670000
27	24	3322330000
28	24	4454550000
29	25	5566780000
30	25	2211220000

```
30 rows in set (0.00 sec)
```

Mobile purchased table

```
mysql> select * from mobile_purchased;
+-----+-----+
| mobile_purchased_id | mobile_brand |
+-----+-----+
| 1 | apple |
| 2 | asus |
| 3 | samsung |
| 4 | vivo |
| 5 | infinix |
| 6 | oppo |
| 7 | realme |
| 8 | motorola |
| 9 | redmi |
| 10 | iqoo |
+-----+-----+
10 rows in set (0.00 sec)
```

Payment method table

```
mysql> select * from payment_method;
+-----+-----+
| payment_id | payment_method |
+-----+-----+
| 1 | cash |
| 2 | credit |
| 3 | net_banking |
| 4 | paytm |
| 5 | upi |
+-----+-----+
5 rows in set (0.00 sec)
```

Invoice table

```
mysql> select * from invoice_number;
```

customer_id	invoice_no
1	regwer54352456
2	feengwer54352456
3	fghbshsfhfh566
4	hswtrhwre642567h
5	dfhwtr66y7e5g
6	dtheg45f6
7	fgbw4ty4676
8	bsegwvyv64v
9	ertgw677g
10	evwwe67g67
11	vsdzgewrt56
12	eber654b
13	betyet7876
14	rbtru76
15	hub5ye56yv
16	evyere767
17	byue57u7
18	btvyue57r856
19	gfnsrbrh
20	bteyu64byv4w
21	bseyw4b66g
22	bsrtbuwb64b4
23	btu356yb56e
24	veryw46v7568h
25	v54y56b7

```
25 rows in set (0.00 sec)
```

DDL COMMANDS

To add a column

mysql> alter table customers add column email char(30) after contact_id;

```
mysql> alter table customers add column email char(30) after contact_id;
Query OK, 0 rows affected (0.07 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> select*from customers;
```

customer_id	f_name	l_name	contact_id	email	mobile_purchase_id	payment_id	invoice_id
1	Abhijeet	mishra	1	NULL	3	3	1
2	suraj	chand	2	NULL	6	3	2
3	chandan	kahar	3	NULL	4	5	3
4	pravin	shekhawat	4	NULL	8	3	4
5	nidhi	bhat	5	NULL	8	2	5
6	prajjwal	dohare	6	NULL	9	4	6
7	avinash	sahani	7	NULL	8	3	7
8	aniket	patil	8	NULL	8	1	8
9	abhishek	mishra	9	NULL	9	2	9
10	sunita	mishra	10	NULL	6	3	10
11	suman	shekhawat	11	NULL	8	3	11
12	ram	shekhawat	12	NULL	9	2	12

To change datatype

mysql> alter table customers modify email varchar(225);

```
mysql> alter table customers modify email varchar(225);
Query OK, 25 rows affected (0.16 sec)
Records: 25 Duplicates: 0 Warnings: 0

mysql> select*from customers;
```

customer_id	f_name	l_name	contact_id	email	mobile_purchase_id	payment_id	invoice_id
1	Abhijeet	mishra	1	NULL	3	3	1
2	suraj	chand	2	NULL	6	3	2
3	chandan	kahar	3	NULL	4	5	3
4	pravin	shekhawat	4	NULL	8	3	4
5	nidhi	bhat	5	NULL	8	2	5
6	prajjwal	dohare	6	NULL	9	4	6
7	avinash	sahani	7	NULL	8	3	7
8	aniket	patil	8	NULL	8	1	8
9	abhishek	mishra	9	NULL	9	2	9
10	sunita	mishra	10	NULL	6	3	10

To change column name from email to mail

mysql> alter table customers change email mail char(30);

```
mysql> alter table customers change email mail char(30);
Query OK, 25 rows affected (0.13 sec)
Records: 25 Duplicates: 0 Warnings: 0

mysql> select*from customers;
```

customer_id	f_name	l_name	contact_id	mail	mobile_purchase_id	payment_id	invoice_id
1	Abhijeet	mishra	1	NULL	3	3	1
2	suraj	chand	2	NULL	6	3	2
3	chandan	kahar	3	NULL	4	5	3
4	pravin	shekhawat	4	NULL	8	3	4
5	nidhi	bhat	5	NULL	8	2	5
6	prajjwal	dohare	6	NULL	9	4	6
7	avinash	sahani	7	NULL	8	3	7
8	aniket	patil	8	NULL	8	1	8
9	abhishek	mishra	9	NULL	9	2	9
10	sunita	mishra	10	NULL	6	3	10

To drop column dropping column mail

mysql> alter table customers drop column mail;

```
mysql> alter table customers drop column mail;
Query OK, 0 rows affected (0.07 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> select*from customers;
```

customer_id	f_name	l_name	contact_id	mobile_purchase_id	payment_id	invoice_id
1	Abhijeet	mishra	1	3	3	1
2	suraj	chand	2	6	3	2
3	chandan	kahar	3	4	5	3
4	pravin	shekhawat	4	8	3	4
5	nidhi	bhat	5	8	2	5
6	prajjwal	dohare	6	9	4	6
7	avinash	sahani	7	8	3	7
8	aniket	patil	8	8	1	8
9	abhishek	mishra	9	9	2	9
10	sunita	mishra	10	6	3	10
11	suman	shekhawat	11	8	3	11
12	ram	shekhawat	12	9	2	12
13	komal	shekhawat	13	7	3	13
14	rani	mishra	14	1	2	14

DML commands

To update a value

Chandan kahar placed 3rd in the table with mobile id 8 has wrongly displayed the value 4

We need to update the value.

```
mysql> update customers set mobile_purchase_id=8 where
f_name="chandan";
```

```
mysql> update customers set mobile_purchase_id=8 where f_name="chandan";
Query OK, 1 row affected (0.04 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> select*from customers;
```

customer_id	f_name	l_name	contact_id	mobile_purchase_id	payment_id	invoice_id
1	Abhijeet	mishra	1	3	3	1
2	suraj	chand	2	6	3	2
3	chandan	kahar	3	8	5	3
4	pravin	shekhawat	4	8	3	4
5	nidhi	bhat	5	8	2	5

Inserting a record and deleting it

```
mysql> insert into customers values(26,"sham","patil",26,9,2,26);
```

24	shivani	sharma	24	3	4	24
25	rupali	mishra	25	3	4	25
26	sham	patil	26	9	2	26

Now deleting the record

mysql> delete from customers where customer_id=26;

```
mysql> delete from customers where customer_id=26;  
Query OK, 1 row affected (0.04 sec)
```

21	Vikram	Pachore	21	3	3	21
22	yogesh	sharma	22	3	4	22
23	shushila	sharma	23	6	3	23
24	shivani	sharma	24	3	4	24
25	rupali	mishra	25	3	4	25

DQL commands

Select commands-

For reading table

Select*from customers;

```
mysql> use diamond_mobile  
Database changed  
mysql> select*from customers;
```

customer_id	f_name	l_name	contact_id	mobile_purchase_id	payment_id	invoice_id
1	Abhijeet	mishra	1	3	3	1
2	suraj	chand	2	6	3	2
3	chandan	kahar	3	8	5	3
4	pravin	shekhawat	4	8	3	4
5	nidhi	bhat	5	8	2	5
6	prajjwal	dohare	6	9	4	6

Where clause

select customer_id,f_name,l_name from customers where
mobile_purchase_id>3;

```
mysql> select customer_id,f_name,l_name from customers where mobile_purchase_id>6;
```

customer_id	f_name	l_name
3	chandan	kahar
4	pravin	shekhawat
5	nidhi	bhat
6	prajjwal	dohare
7	avinash	sahani
8	aniket	patil
9	abhishek	mishra
11	suman	shekhawat
12	ram	shekhawat
13	komal	shekhawat
18	archana	mishra

```
11 rows in set (0.00 sec)
```

And operator

**select customer_id,f_name,l_name from customers where
mobile_purchase_id>6 and contact_id>12;**

```
mysql> select customer_id,f_name,l_name from customers where mobile_purchase_id>6 and contact_id>12;
```

customer_id	f_name	l_name
13	komal	shekhawat
18	archana	mishra

```
2 rows in set (0.00 sec)
```

Or operator

**select customer_id,f_name,l_name from customers where
mobile_purchase_id>8 or contact_id>12;**

```
mysql> select customer_id,f_name,l_name from customers where mobile_purchase_id>8 or contact_id>12;
```

customer_id	f_name	l_name
6	prajjwal	dohare
9	abhishek	mishra
12	ram	shekhawat
13	komal	shekhawat
14	rani	mishra
15	shivam	dubey
16	rahul	baitha
17	vikas	chand
18	archana	mishra
19	rahula	prasad
20	sarjit	rathore
21	vikram	rathore
22	yogesh	sharma
23	shushila	sharma
24	shivani	sharma
25	rupali	mishra

In operator

**select customer_id,f_name,l_name from customers where
mobile_purchase_id in(3,4,6);**

```
mysql> select customer_id,f_name,l_name from customers where mobile_purchase_id in(3,4,6);
+-----+-----+-----+
| customer_id | f_name | l_name |
+-----+-----+-----+
|          1 | Abhijeet | mishra |
|          2 | suraj   | chand  |
|         10 | sunita  | mishra |
|         15 | shivam  | dubey  |
|         20 | sarjit  | rathore |
|         21 | vikram  | rathore |
|         22 | yogesh  | sharma |
|         23 | shushila | sharma |
|         24 | shivani | sharma |
|         25 | rupali  | mishra |
+-----+-----+-----+
10 rows in set (0.00 sec)
```

Between operator

**select customer_id,f_name,l_name from customers where
mobile_purchase_id between 7 and 9;**

```
mysql> select customer_id,f_name,l_name from customers where mobile_purchase_id between 7 and 9;
+-----+-----+-----+
| customer_id | f_name | l_name |
+-----+-----+-----+
|          3 | chandan | kahar  |
|          4 | pravin  | shekhawat |
|          5 | nidhi   | bhat   |
|          6 | prajjwal | dohare |
|          7 | avinash | sahani |
|          8 | aniket  | patil  |
|          9 | abhishek | mishra |
|         11 | suman   | shekhawat |
|         12 | ram     | shekhawat |
|         13 | komal   | shekhawat |
|         18 | archana | mishra |
+-----+-----+-----+
11 rows in set (0.00 sec)
```

Not operator

**select customer_id,f_name,l_name from customers where
mobile_purchase_id not in(1,2,3,4,5,6);**

```
mysql> select customer_id,f_name,l_name from customers where mobile_purchase_id not in(1,2,3,4,5,6);
```

customer_id	f_name	l_name
3	chandan	kahar
4	pravin	shekhawat
5	nidhi	bhat
6	prajjwal	dohare
7	avinash	sahani
8	aniket	patil
9	abhishek	mishra
11	suman	shekhawat
12	ram	shekhawat
13	komal	shekhawat
18	archana	mishra

```
11 rows in set (0.00 sec)
```

Not between

**select customer_id,f_name,l_name from customers where
mobile_purchase_id not between 7 and 9;**

```
mysql> select customer_id,f_name,l_name from customers where mobile_purchase_id not between 7 and 9;
```

customer_id	f_name	l_name
1	Abhijeet	mishra
2	suraj	chand
10	sunita	mishra
14	rani	mishra
15	shivam	dubey
16	rahul	baitha
17	vikas	chand
19	rahula	prasad
20	sarjit	rathore
21	vikram	rathore
22	yogesh	sharma
23	shushila	sharma
24	shivani	sharma
25	rupali	mishra

```
14 rows in set (0.00 sec)
```

Order commands

Displaying the mobile purchase ID in ascending order

**select customer_id,f_name,l_name,mobile_purchase_id from customers
order by mobile_purchase_id;**

```
mysql> select customer_id,f_name,l_name,mobile_purchase_id from customers order by mobile_purchase_id;
```

customer_id	f_name	l_name	mobile_purchase_id
14	rani	mishra	1
1	Abhijeet	mishra	3
21	vikram	rathore	3
22	yogesh	sharma	3
24	shivani	sharma	3
25	rupali	mishra	3
20	sarjit	rathore	4
16	rahul	baitha	5
17	vikas	chand	5
19	rahula	prasad	5
2	suraj	chand	6
10	sunita	mishra	6
15	shivam	dubey	6
23	shushila	sharma	6
13	komal	shekhawat	7
3	chandan	kahar	8
4	pravin	shekhawat	8
5	nidhi	bhat	8
7	avinash	sahani	8
8	aniket	patil	8
11	suman	shekhawat	8
18	archana	mishra	8
6	prajjwal	dohare	9
9	abhishek	mishra	9
12	ram	shekhawat	9

```
25 rows in set (0.00 sec)
```

Distinct clause

select distinct mobile_purchase_id from customers order by customer_id;

```
mysql> select distinct mobile_purchase_id from customers order by customer_id;
```

mobile_purchase_id
3
6
8
9
7
1
5
4

```
8 rows in set (0.00 sec)
```

Aggregate functions

Average

Taking average of payment_id

```
select round(avg(payment_id),2)as average,customer_id from customers  
group by customer_id;
```

```
mysql> select round(avg(payment_id),2)as average,customer_id from customers group by customer_id;  
+-----+-----+  
| average | customer_id |  
+-----+-----+  
| 3.00    | 1           |  
| 3.00    | 2           |  
| 5.00    | 3           |  
| 3.00    | 4           |  
| 2.00    | 5           |  
| 4.00    | 6           |  
| 3.00    | 7           |  
| 1.00    | 8           |  
| 2.00    | 9           |  
| 3.00    | 10          |  
| 3.00    | 11          |
```

Sum function

```
select sum(payment_id),customer_id from customers;
```

```
mysql> select sum(payment_id),customer_id from customers;  
+-----+-----+  
| sum(payment_id) | customer_id |  
+-----+-----+  
| 89              | 1           |  
+-----+-----+  
1 row in set (0.00 sec)
```

min function

```
select min(payment_id),customer_id from customers;
```

```
mysql> select min(payment_id),customer_id from customers;  
+-----+-----+  
| min(payment_id) | customer_id |  
+-----+-----+  
| 1               | 1           |  
+-----+-----+  
1 row in set (0.00 sec)
```

Max function

```
select max(payment_id),customer_id from customers;
```

```
mysql> select max(payment_id),customer_id from customers;
+-----+-----+
| max(payment_id) | customer_id |
+-----+-----+
|                7 |           1 |
+-----+-----+
1 row in set (0.04 sec)
```

Count function

select count(payment_id),customer_id from customers;

```
mysql> select count(payment_id),customer_id from customers;
+-----+-----+
| count(payment_id) | customer_id |
+-----+-----+
|                25 |           1 |
+-----+-----+
1 row in set (0.00 sec)
```

Concat function

select concat(f_name,l_name)from customers;

```
mysql> select concat(f_name,l_name)from customers;
+-----+
| concat(f_name,l_name) |
+-----+
| Abhijeetmishra        |
| surajchand             |
| chandankahar           |
| pravinshekhawat        |
| nidhibhat              |
| prajjwaldohare         |
| avinashsahani          |
| aniketpatil            |
| abhishekmishra         |
| sunitamishra           |
| sumanshekhawat         |
| ramshekhawat           |
| komalshekhawat         |
| ranimishra             |
| shivamdubey            |
| rahulbaitha            |
| vikaschand             |
| archanamishra          |
| rahulaprasad           |
| sarjitrathore          |
| vikramrathore          |
| yogeshsharma           |
| shushilasharma         |
| shivanisharma          |
| rupalimishra           |
+-----+
25 rows in set (0.04 sec)
```

joins

left join

joining the parent table and child table where parent table = customers

and child table = invoice_number

displaying invoice numbers of all customers using left join .

```
select customers.customer_id,customers.f_name,invoice_number.invoice_no
      from customers left join invoice_number on
      customers.contact_id=invoice_number.customer_id;
```

customer_id	f_name	invoice_no
1	Abhijeet	regwer54352456
2	suraj	feergwer54352456
3	chandan	fghbshsfhfh566
4	pravin	hswtrhwre642567h
5	nidhi	dfhwtr66y7e5g
6	prajjwal	dtheg45f6
7	avinash	fgbw4ty4676
8	aniket	bsegwvyv64v
9	abhishek	ertgw677g
10	sunita	evwwe67g67
11	suman	vsdzgewrt56
12	ram	eber654b
13	komal	betyet7876
14	rani	rbtru76
15	shivam	hub5ye56yv

Right join

Joining the contact id with the parent table customers

Select

customers.customer_id,customers.f_name,contact_number.mobile_no from
customers right join contact_number on
customers.contact_id=contact_number.contact_id;

```
mysql> select customers.customer_id,custome
```

customer_id	f_name	mobile_no
1	Abhijeet	9898990000
1	Abhijeet	7898990000
2	suraj	1122230000
3	chandan	3456790000
3	chandan	3322110000
4	pravin	5566780000
5	nidhi	3344560000
6	prajjwal	7766550000
7	avinash	7766540000
8	aniket	4455670000
9	abhishek	5500450000
10	sunita	6868690000
11	suman	4567900000
11	suman	2233450000
12	ram	4455670000
13	komal	4433230000
14	rani	4455670000
15	shivam	4455670000
17	vikas	4455670000
18	archana	8989900000
19	rahula	3333330000
19	rahula	5566770000
20	sarjit	2233340000
21	vikram	4455670000
22	yogesh	4455670000
23	shushila	4455670000
24	shivani	3322330000
24	shivani	4454550000
25	rupali	5566780000
25	rupali	2211220000

Inner join

Performing inner join on mobile_purchase_id and customers table

```
mysql> select  
customers.customer_id,customers.f_name,customers.mobile_purchase_id,m  
obile_purchased.mobile_brand from customers inner join mobile_purchased  
on customers. mobile_purchase_id= mobile_purchased.  
mobile_purchased_id;
```

```
mysql> select customers.customer_id,customers.f_name,customers.  
mobile_purchase_id= mobile_purchased. mobile_purchased_id;
```

customer_id	f_name	mobile_purchase_id	mobile_brand
1	Abhijeet	3	samsung
2	suraj	6	oppo
3	chandan	8	motorola
4	pravin	8	motorola
5	nidhi	8	motorola
6	prajjwal	9	redmi
7	avinash	8	motorola
8	aniket	8	motorola
9	abhishek	9	redmi
10	sunita	6	oppo
11	suman	8	motorola
12	ram	9	redmi
13	komal	7	realme
14	rani	1	apple
15	shivam	6	oppo
16	rahul	5	infinix
17	vikas	5	infinix
18	archana	8	motorola
19	rahula	5	infinix
20	sarjit	4	vivo
21	vikram	3	samsung
22	yogesh	3	samsung
23	shushila	6	oppo
24	shivani	3	samsung
25	rupali	3	samsung

join

joining the payment method and parent table customers.

```
mysql> select  
customers.customer_id,customers.f_name,customers.payment_id,payment_  
method.payment_method from customers join payment_method on  
customers.payment_id=payment_method.payment_id;
```

```
mysql> select customers.customer_id,customers.f_name,customers.payment_id,payment_metho  
d.payment_id;  
+-----+-----+-----+-----+  
| customer_id | f_name   | payment_id | payment_method |  
+-----+-----+-----+-----+  
| 1 | Abhijeet | 3 | net_banking |  
| 2 | suraj    | 3 | net_banking |  
| 3 | chandan  | 5 | upi         |  
| 4 | pravin   | 3 | net_banking |  
| 5 | nidhi    | 2 | credit      |  
| 6 | prajjwal | 4 | paytm       |  
| 7 | avinash  | 3 | net_banking |  
| 8 | aniket   | 1 | cash        |  
| 9 | abhishek | 2 | credit      |  
| 10 | sunita   | 3 | net_banking |  
| 11 | suman    | 3 | net_banking |  
| 12 | ram      | 2 | credit      |  
| 13 | komal    | 3 | net_banking |  
| 14 | rani     | 2 | credit      |  
| 15 | shivam   | 4 | paytm       |  
| 18 | archana  | 5 | upi         |  
| 19 | rahula   | 3 | net_banking |  
| 20 | sarjit   | 5 | upi         |  
| 21 | vikram   | 5 | upi         |  
| 22 | yogesh   | 4 | paytm       |  
| 23 | shushila | 3 | net_banking |  
| 24 | shivani  | 4 | paytm       |  
| 25 | rupali   | 4 | paytm       |  
+-----+-----+-----+-----+  
23 rows in set (0.00 sec)
```

Subquery

Using operators

mysql> select f_name,l_name from customers where contact_id=(select customer_id from invoice_number where customer_id=1);

```
mysql> select f_name,l_name from customers where contact_id=(select customer_id from invoice_number where customer_id=1);
+-----+-----+
| f_name | l_name |
+-----+-----+
| Abhijeet | mishra |
+-----+-----+
1 row in set (0.00 sec)
```

mysql> select f_name,l_name from customers where contact_id>(select customer_id from invoice_number where customer_id=20);

```
mysql> select f_name,l_name from customers where contact_id>(select customer_id from invoice_number where customer_id=20);
+-----+-----+
| f_name | l_name |
+-----+-----+
| vikram | rathore |
| yogesh | sharma |
| shushila | sharma |
| shivani | sharma |
| rupali | mishra |
+-----+-----+
5 rows in set (0.00 sec)
```

mysql> select f_name,l_name from customers where contact_id>=(select customer_id from invoice_number where customer_id=17);

```
mysql> select f_name,l_name from customers where contact_id>=(select customer_id from invoice_number where customer_id=17);
+-----+-----+
| f_name | l_name |
+-----+-----+
| vikas | chand |
| archana | mishra |
| rahula | prasad |
| sarjit | rathore |
| vikram | rathore |
| yogesh | sharma |
| shushila | sharma |
| shivani | sharma |
| rupali | mishra |
+-----+-----+
9 rows in set (0.00 sec)
```

IN

**select f_name,l_name from customers where contact_id in(select
customer_id from invoice_number where customer_id=17);**

```
mysql> select f_name,l_name from customers where contact_id in(select customer_id from invoice_number where customer_id=17);
+-----+-----+
| f_name | l_name |
+-----+-----+
| vikas  | chand  |
+-----+-----+
1 row in set (0.04 sec)
```

THANK YOU