

E COMMERCE DATABASE

USING MYSQL

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Batch No: BH09

Project Name: e commerce database.

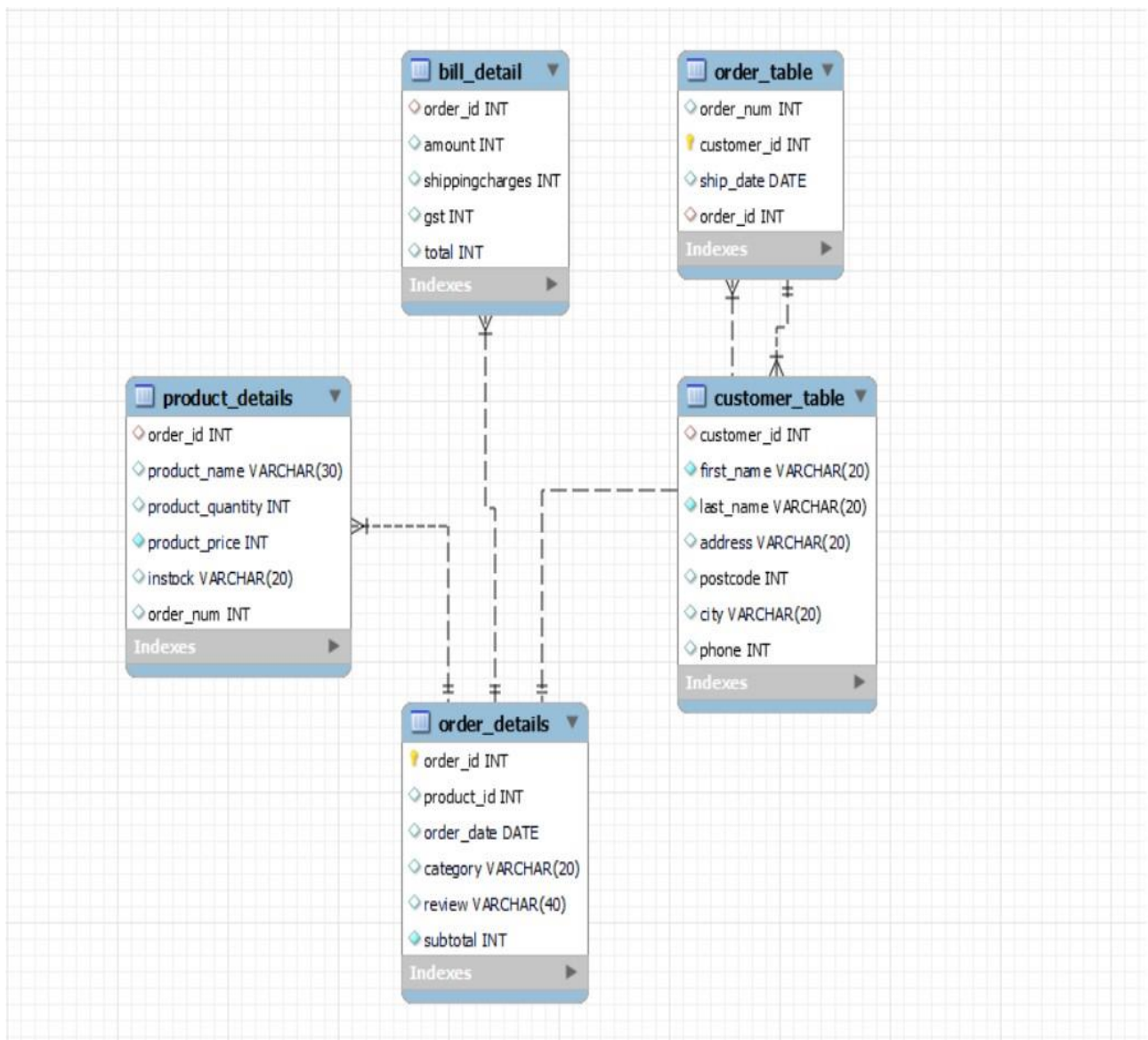
SQL (Structured Query Language), which stands for Structured Query Language, is a domain-specific language used for managing and manipulating relational databases. SQL is used to perform operations on the records stored in the database, such as updating records, inserting records, deleting records, creating and modifying database tables, views, etc.

MySQL is an open-source relational database management system (RDBMS) that uses SQL as its query language. It is one of the most popular and widely used RDBMSs in the world. MySQL is known for its speed, reliability, and ease of use.

MySQL follows the working of **Client-Server Architecture**. This model is designed for the end-users called clients to access the resources from a central computer known as a server using network services. Here, the clients make requests through a graphical user interface (GUI), and the server will give the desired output as soon as the instructions are matched. The process of MySQL environment is the same as the client-server model.

You have been assigning to create a database of client management database system that should store information about company, services provided by the company, client details, professionals who involved, invoice. Design the database scheme answer the following questions.

ER DIAGRAM



Steps:

- Open MySQL and Create a Database with database name called “Client Management

```
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 70
Server version: 8.0.36 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
```

```
mysql> create database ecommerce;
Query OK, 1 row affected (0.06 sec)
```

- Show Databases

```
mysql> show databases;
+-----+
| Database |
+-----+
| demo     |
| e_commerce |
| ecommerce |
| information_schema |
| mysql    |
| performance_schema |
| sys      |
| vinaya   |
+-----+
```

- Use database

```
mysql> use e_commerce;  
Database changed
```

- Create tables of order, products, customers and bill details.

```
mysql> create table order_details (order_id int,  
-> product_id int,  
-> order_date date,  
-> category varchar(20),  
-> review varchar(20),  
-> subtotal int);  
Query OK, 0 rows affected (0.11 sec)
```

```
mysql> create table order_table (order_num int,  
-> customer_id int,  
-> ship_date date,  
-> order_id int);  
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> create table product_details (order_id int,  
-> product_name varchar(20),  
-> product_quantity int,  
-> product_price int,  
-> instock varchar(20),  
-> order_num int);  
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> create table customer_table (customer_id int,  
-> first_name varchar(20),  
-> last_name varchar(20),  
-> address varchar(20),  
-> postcode int,  
-> city varchar(20),  
-> phone int);  
Query OK, 0 rows affected (0.04 sec)
```

```
mysql> create table bill_detail (order_id int,  
-> amount int,  
-> shippingcharges int,  
-> gst int,  
-> total int);  
Query OK, 0 rows affected (0.04 sec)
```

- Adding Primary key

```
mysql> alter table order_details add primary key (order_id);
Query OK, 0 rows affected (0.08 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc order_details;
```

Field	Type	Null	Key	Default	Extra
order_id	int	NO	PRI	NULL	
product_id	int	YES		NULL	
order_date	date	YES		NULL	
category	varchar(20)	YES		NULL	
review	varchar(20)	YES		NULL	
subtotal	int	YES		NULL	

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

```
mysql> alter table order_table add primary key (customer_id);
Query OK, 0 rows affected (0.05 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc order_table;
```

Field	Type	Null	Key	Default	Extra
order_num	int	YES		NULL	
customer_id	int	NO	PRI	NULL	
ship_date	date	YES		NULL	
order_id	int	YES		NULL	

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

- Adding foreign key

```
mysql> alter table product_details add foreign key(order_id) references order_details (order_id);
Query OK, 0 rows affected (0.09 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc product_details;
```

Field	Type	Null	Key	Default	Extra
order_id	int	YES	MUL	NULL	
product_name	varchar(20)	YES		NULL	
product_quantity	int	YES		NULL	
product_price	int	YES		NULL	
instock	varchar(20)	YES		NULL	
order_num	int	YES		NULL	

```
6 rows in set (0.01 sec)
```

```
mysql> alter table customer_table add foreign key (customer_id) references order_table (customer_id);
Query OK, 0 rows affected (0.09 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc customer_table;
```

Field	Type	Null	Key	Default	Extra
customer_id	int	YES	MUL	NULL	
first_name	varchar(20)	YES		NULL	
last_name	varchar(20)	YES		NULL	
address	varchar(20)	YES		NULL	
postcode	int	YES		NULL	
city	varchar(20)	YES		NULL	
phone	int	YES		NULL	

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

- Insert Data into Tables

```
mysql> insert into order_details values (101001,210302,'2022-12-05',"womens wear","true to picture",1500),  
-> (101002,220202,'2022-08-12',"mens wear","good quailty",4500),  
-> (101003,260602,'2023-05-15',"womens wear","fits perfectly",6900),  
-> (101004,231001,'2023-04-19',"accessories","good quality",10000),  
-> (101005,170401,'2020-09-10',"womens wear","pretty colour",15000);  
Query OK, 5 rows affected (0.01 sec)  
Records: 5 Duplicates: 0 Warnings: 0
```

```
mysql> insert into order_table values (201,20101,'2022-12-10',101001),  
-> (202,20102,'2022-08-18',101002),  
-> (301,30101,'2023-05-21',101003),  
-> (302,30102,'2023-04-22',101004),  
-> (401,40101,'2020-09-15',101005);  
Query OK, 5 rows affected (0.01 sec)  
Records: 5 Duplicates: 0 Warnings: 0
```

```
mysql> insert into product_details values (101001,"kurti set",1,1500,"yes",201),  
-> (101002,"shirt and trouser",2,2250,"yes",202),  
-> (101003,"top and tunics",2,3450,"yes",301),  
-> (101004,"earings and makeup",1,10000,"yes",302),  
-> (101005,"dupatta set",3,5000,"yes",401);  
Query OK, 5 rows affected (0.01 sec)  
Records: 5 Duplicates: 0 Warnings: 0
```



```
mysql> insert into customer_table values (20101,"honey","sri","chandanagar",502032,"hyderabad",95545892),
-> (20102,"daya","raj","miyapur",502002,"hyderabad",95865847),
-> (30101,"sai","valli","sr nagar",510204,"chennai",74521869),
-> (30102,"rani","begum","kothapet",502032,"hyderabad",85415759),
-> (40101,"madhu","latha","navi colony",504052,"mumbai",85412496);
```

Query OK, 5 rows affected (0.01 sec)

Records: 5 Duplicates: 0 Warnings: 0

```
mysql> insert into bill_detail values (101001,1350,100,50,1500),
-> (101002,4300,100,100,4500),
-> (101003,6500,200,200,6900),
-> (101004,9500,250,250,10000),
-> (101001,13900,400,600,15000);
```

Query OK, 5 rows affected (0.01 sec)

Records: 5 Duplicates: 0 Warnings: 0

- Retrieving data using SELECT command.

```
mysql> select * from order_details;
```

order_id	product_id	order_date	category	review	subtotal
101001	210302	2022-12-05	womens wear	true to picture	1500
101002	220202	2022-08-12	mens wear	good quailty	4500
101003	260602	2023-05-15	womens wear	fits perfectly	6900
101004	231001	2023-04-19	accessories	good quality	10000
101005	170401	2020-09-10	womens wear	pretty colour	15000
101006	260600	2021-07-25	shoes and wallets	just go for it	9500
101007	150301	2021-08-11	new born	can be good	700
101008	110702	2020-03-13	sanitary	budget friendly	1000
101009	150802	2020-11-29	mens wear	suggested	1400
101010	170601	2022-10-23	infants	budget friendly	1200
101011	100399	2022-09-03	accessories	good	950
101012	170819	2023-01-30	womens wear	recommended	12000

12 rows in set (0.01 sec)

```
mysql> select * from order_table;
```

order_num	customer_id	ship_date	order_id
201	20101	2022-12-10	101001
202	20102	2022-08-18	101002
301	30101	2023-05-21	101003
302	30102	2023-04-22	101004
401	40101	2020-09-15	101005
402	40102	2021-07-30	101006
501	50101	2021-08-15	101007
502	50102	2020-03-20	101008
601	60101	2020-12-01	101009
602	60102	2022-10-30	101010
701	70101	2022-09-10	101011
702	70102	2023-02-05	101012

```
12 rows in set (0.01 sec)
```

```
mysql> select * from product_details;
```

order_id	product_name	product_quantity	product_price	instock	order_num
101001	kurti set	1	1500	yes	201
101002	shirt and trouser	2	2250	yes	202
101003	top and tunics	2	3450	yes	301
101004	earrings and makeup	1	10000	yes	302
101005	dupatta set	3	5000	yes	401
101006	shoes and wallets	1	9500	yes	402
101007	essentials	2	500	yes	502
101008	toys and sipper	2	350	yes	502

```
8 rows in set (0.01 sec)
```

```
mysql> select * from customer_table;
```

customer_id	first_name	last_name	address	postcode	city	phone
20101	honey	sri	chandanagar	502032	hyderabad	95545892
20102	daya	raj	miyapur	502002	hyderabad	95865847
30101	sai	valli	sr nagar	510204	chennai	74521869
30102	venu	gopal	rk puram	503057	banglore	85412759
30102	rani	begum	kothapet	502032	hyderabad	85412474
40101	madhu	latha	navi colony	504052	mumbai	75812496
40102	sri	kanth	madhapur	502032	hyderabad	79812474
50101	kiran	madhav	james street	504205	chennai	78542496
50102	raj	sesh	kanchi	502032	tamilnadu	7452786
60101	himaja	hasini	jb colony	504055	banglore	75429496
60102	shashi	kiran	panjagutta	502032	hyderabad	752489
70101	harshith	sai	gachibowli	502032	hyderabad	75458249
70102	sahasra	gupta	old chennai street	502052	chennai	78541259

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

```
mysql> select * from bill_detail;
```

order_id	amount	shippingcharges	gst	total
101001	1350	100	50	1500
101002	4300	100	100	4500
101003	6500	200	200	6900
101004	9500	250	250	10000
101005	13900	400	600	15000
101006	9000	250	250	9500
101007	550	50	100	700
101008	900	50	50	1000
101009	1300	50	50	1400
101010	1000	50	150	1200
101011	800	50	100	950
101012	11500	200	300	12000

```
12 rows in set (0.01 sec)
```

- Delete command:

```
mysql> delete from customer_table where customer_id=70102;  
Query OK, 1 row affected (0.01 sec)
```

```
mysql> select * from customer_table;
```

customer_id	first_name	last_name	address	postcode	city	phone
20101	honey	sri	chandanagar	502032	hyderabad	95545892
20102	daya	raj	miyapur	502002	hyderabad	95865847
30101	sai	valli	sr nagar	510204	chennai	74521869
30102	venu	gopal	rk puram	503057	banglore	85412759
30102	rani	begum	kothapet	502032	hyderabad	85412474
40101	madhu	latha	navi colony	504052	mumbai	75812496
40102	sri	kanth	madhapur	502032	hyderabad	79812474
50101	kiran	madhav	james street	504205	chennai	78542496
50102	raj	sesh	kanchi	502032	tamilnadu	7452786
60101	himaja	hasini	jb colony	504055	banglore	75429496
60102	shashi	kiran	panjagutta	502032	hyderabad	752489
70101	harshith	sai	gachibowli	502032	hyderabad	75458249

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

- Operators

```
mysql> select * from order_details where category="womens wear";
```

order_id	product_id	order_date	category	review	subtotal
101001	210302	2022-12-05	womens wear	true to picture	1500
101003	260602	2023-05-15	womens wear	fits perfectly	6900
101005	170401	2020-09-10	womens wear	pretty colour	15000
101012	170819	2023-01-30	womens wear	recommended	12000

4 rows in set (0.01 sec)

```
mysql> select * from bill_detail where total>10000;
```

order_id	amount	shippingcharges	gst	total
101005	13900	400	600	15000
101012	11500	200	300	12000

2 rows in set (0.00 sec)

```
mysql> select * from product_details where product_quantity=1;
```

order_id	product_name	product_quantity	product_price	instock	order_num
101001	kurti set	1	1500	yes	201
101004	earings and makeup	1	10000	yes	302
101006	shoes and wallets	1	9500	yes	402

3 rows in set (0.00 sec)

- LIKE operator:

```
mysql> select customer_id,address from customer_table where first_name like '_a%';
```

customer_id	address
20102	miyapur
30101	sr nagar
30102	kothapet
40101	navi colony
50102	kanchi
70101	gachibowli

```
6 rows in set (0.01 sec)
```

- BETWEEN Operator

```
mysql> select customer_id,ship_date from order_table where order_num between 201 and 401;
```

customer_id	ship_date
20101	2022-12-10
20102	2022-08-18
30101	2023-05-21
30102	2023-04-22
40101	2020-09-15

```
5 rows in set (0.01 sec)
```

- IN Operator

```
mysql> select * from order_details where order_id in (101001,101012);
```

order_id	product_id	order_date	category	review	subtotal
101001	210302	2022-12-05	womens wear	true to picture	1500
101012	170819	2023-01-30	womens wear	recommended	12000

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

- Create View

```
mysql> create view output as (select * from invoice where Bill_amount>20000);
Query OK, 0 rows affected (0.01 sec)
```

```
mysql> show tables;
```

Tables_in_client_management
client
company
invoice
output
professionals_involved
service

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

- Aggregate Functions

```
mysql> select min(price) from service;
+-----+
| min(price) |
+-----+
|        3500 |
+-----+
1 row in set (0.00 sec)
```

```
mysql> select avg(subtotal) from order_details;
+-----+
| avg(subtotal) |
+-----+
|      5387.5000 |
+-----+
1 row in set (0.01 sec)
```

```
mysql> select count(service_id) from service;
+-----+
| count(service_id) |
+-----+
|                7 |
+-----+
1 row in set (0.00 sec)
```

```
mysql> select * from order_details where order_id in (select order_id from bill_detail where gst !=100);
+-----+-----+-----+-----+-----+-----+
| order_id | product_id | order_date | category | review | subtotal |
+-----+-----+-----+-----+-----+-----+
| 101001 | 210302 | 2022-12-05 | womens wear | true to picture | 1500 |
| 101003 | 260602 | 2023-05-15 | womens wear | fits perfectly | 6900 |
| 101004 | 231001 | 2023-04-19 | accessories | good quality | 10000 |
| 101005 | 170401 | 2020-09-10 | womens wear | pretty colour | 15000 |
| 101006 | 260600 | 2021-07-25 | shoes and wallets | just go for it | 9500 |
| 101008 | 110702 | 2020-03-13 | sanitary | budget friendly | 1000 |
| 101009 | 150802 | 2020-11-29 | mens wear | suggested | 1400 |
| 101010 | 170601 | 2022-10-23 | infants | budget friendly | 1200 |
| 101012 | 170819 | 2023-01-30 | womens wear | recommended | 12000 |
+-----+-----+-----+-----+-----+-----+
9 rows in set (0.01 sec)
```


- Joins

Cross join

```
mysql> select * from order_details cross join order_table;
```

order_id	product_id	order_date	category	review	subtotal	order_num	customer_id	ship_date	order_id
101012	170819	2023-01-30	womens wear	recommended	12000	201	20101	2022-12-10	101001
101011	100399	2022-09-03	accessories	good	950	201	20101	2022-12-10	101001
101010	170601	2022-10-23	infants	budget friendly	1200	201	20101	2022-12-10	101001
101009	150802	2020-11-29	mens wear	suggested	1400	201	20101	2022-12-10	101001
101008	110702	2020-03-13	sanitary	budget friendly	1000	201	20101	2022-12-10	101001
101007	150301	2021-08-11	new born	can be good	700	201	20101	2022-12-10	101001
101006	260600	2021-07-25	shoes and wallets	just go for it	9500	201	20101	2022-12-10	101001
101005	170401	2020-09-10	womens wear	pretty colour	15000	201	20101	2022-12-10	101001
101004	231001	2023-04-19	accessories	good quality	10000	201	20101	2022-12-10	101001
101003	260602	2023-05-15	womens wear	fits perfectly	6900	201	20101	2022-12-10	101001
101002	220202	2022-08-12	mens wear	good quailty	4500	201	20101	2022-12-10	101001
101001	210302	2022-12-05	womens wear	true to picture	1500	201	20101	2022-12-10	101001
101012	170819	2023-01-30	womens wear	recommended	12000	202	20102	2022-08-18	101002
101011	100399	2022-09-03	accessories	good	950	202	20102	2022-08-18	101002
101010	170601	2022-10-23	infants	budget friendly	1200	202	20102	2022-08-18	101002
101009	150802	2020-11-29	mens wear	suggested	1400	202	20102	2022-08-18	101002
101008	110702	2020-03-13	sanitary	budget friendly	1000	202	20102	2022-08-18	101002
101007	150301	2021-08-11	new born	can be good	700	202	20102	2022-08-18	101002
101006	260600	2021-07-25	shoes and wallets	just go for it	9500	202	20102	2022-08-18	101002
101005	170401	2020-09-10	womens wear	pretty colour	15000	202	20102	2022-08-18	101002
101004	231001	2023-04-19	accessories	good quality	10000	202	20102	2022-08-18	101002
101003	260602	2023-05-15	womens wear	fits perfectly	6900	202	20102	2022-08-18	101002
101002	220202	2022-08-12	mens wear	good quailty	4500	202	20102	2022-08-18	101002
101001	210302	2022-12-05	womens wear	true to picture	1500	202	20102	2022-08-18	101002
101012	170819	2023-01-30	womens wear	recommended	12000	301	30101	2023-05-21	101003
101011	100399	2022-09-03	accessories	good	950	301	30101	2023-05-21	101003

- Inner join

```
mysql> select * from product_details inner join bill_detail;
```

order_id	product_name	product_quantity	product_price	instock	order_num	order_id	amount	shippingcharges	gst	total
101008	toys and sipper	2	350	yes	502	101001	1350	100	50	1500
101007	essentials	2	500	yes	502	101001	1350	100	50	1500
101006	shoes and wallets	1	9500	yes	402	101001	1350	100	50	1500
101005	dupatta set	3	5000	yes	401	101001	1350	100	50	1500
101004	earings and makeup	1	10000	yes	302	101001	1350	100	50	1500
101003	top and tunics	2	3450	yes	301	101001	1350	100	50	1500
101002	shirt and trouser	2	2250	yes	202	101001	1350	100	50	1500
101001	kurti set	1	1500	yes	201	101001	1350	100	50	1500
101008	toys and sipper	2	350	yes	502	101002	4300	100	100	4500
101007	essentials	2	500	yes	502	101002	4300	100	100	4500
101006	shoes and wallets	1	9500	yes	402	101002	4300	100	100	4500
101005	dupatta set	3	5000	yes	401	101002	4300	100	100	4500
101004	earings and makeup	1	10000	yes	302	101002	4300	100	100	4500
101003	top and tunics	2	3450	yes	301	101002	4300	100	100	4500
101002	shirt and trouser	2	2250	yes	202	101002	4300	100	100	4500
101001	kurti set	1	1500	yes	201	101002	4300	100	100	4500
101008	toys and sipper	2	350	yes	502	101003	6500	200	200	6900
101007	essentials	2	500	yes	502	101003	6500	200	200	6900
101006	shoes and wallets	1	9500	yes	402	101003	6500	200	200	6900
101005	dupatta set	3	5000	yes	401	101003	6500	200	200	6900
101004	earings and makeup	1	10000	yes	302	101003	6500	200	200	6900
101003	top and tunics	2	3450	yes	301	101003	6500	200	200	6900
101002	shirt and trouser	2	2250	yes	202	101003	6500	200	200	6900
101001	kurti set	1	1500	yes	201	101003	6500	200	200	6900

- Natural join

```
mysql> select * from order_table natural join bill_detail;
```

order_id	order_num	customer_id	ship_date	amount	shippingcharges	gst	total
101001	201	20101	2022-12-10	1350	100	50	1500
101002	202	20102	2022-08-18	4300	100	100	4500
101003	301	30101	2023-05-21	6500	200	200	6900
101004	302	30102	2023-04-22	9500	250	250	10000
101005	401	40101	2020-09-15	13900	400	600	15000
101006	402	40102	2021-07-30	9000	250	250	9500
101007	501	50101	2021-08-15	550	50	100	700
101008	502	50102	2020-03-20	900	50	50	1000
101009	601	60101	2020-12-01	1300	50	50	1400
101010	602	60102	2022-10-30	1000	50	150	1200
101011	701	70101	2022-09-10	800	50	100	950
101012	702	70102	2023-02-05	11500	200	300	12000

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

----- * *THANK YOU* * -----