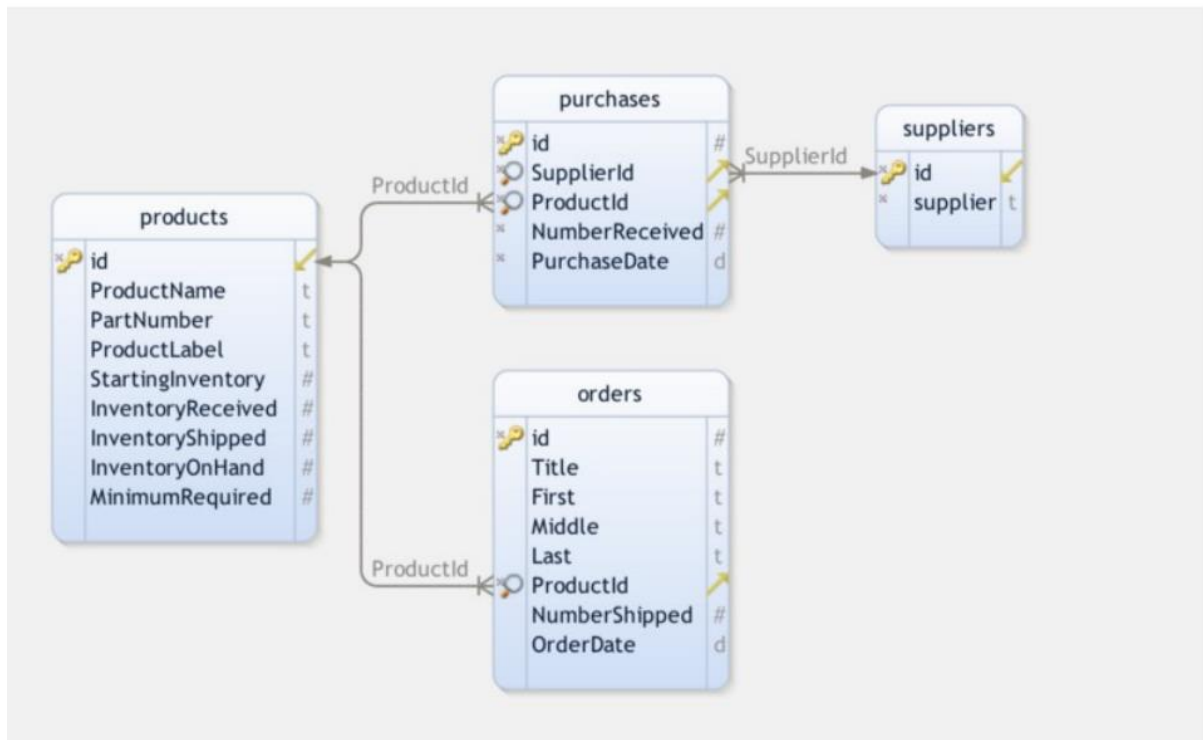


# PROJECT ON MYSQL



The aim of this project is to create an inventory system, refer to the diagram above to create your db.

The diagram shows the number of tables along with the relationship between tables. All the tables with respective columns are provided.

You are required to create the system with proper tables along with their relationship. You are also required to put in around dummy data inside the table so as to get some insights.

## INVENTORY\_SYSTEM

1)command to create a database for storing all above tables.

create database inventory\_sys;

show databases;

use inventory\_sys;

```
MySQL 8.0 Command Line Client
mysql> create database inventory_sys;
Query OK, 1 row affected (0.01 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| empdb    |
| information_schema |
| inventory_sys |
| mysql    |
| performance_schema |
| sakila   |
| shruti   |
| studentdb |
| sys      |
| world    |
+-----+
10 rows in set (0.00 sec)

mysql> use inventory_sys;
Database changed
mysql> show tables;
```

## PRODUCTS TABLE

1)command to create products table.

create table products(

-> id int,

-> ProductName varchar(500),

-> PartNumber varchar(500),

-> ProductLabel varchar(500),

-> StartingInventory int,

-> InventoryReceived int,

-> InventoryShipped int,

-> InventoryOnHand int,

-> MinimumRequired int,

-> primary key(id)

-> );

## 2) command to describe products table.

desc products;

```
MySQL 8.0 Command Line Client

mysql> create table products(
  -> id int,
  -> ProductName varchar(500),
  -> PartNumber varchar(500),
  -> ProductLabel varchar(500),
  -> StartingInventory int,
  -> InventoryReceived int,
  -> InventoryShipped int,
  -> InventoryOnHand int,
  -> MinimumRequired int,
  -> primary key(id)
  -> );
Query OK, 0 rows affected (0.08 sec)

mysql> desc products;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id     | int  | NO   | PRI | NULL    |       |
| ProductName | varchar(500) | YES |     | NULL    |       |
| PartNumber | varchar(500) | YES |     | NULL    |       |
| ProductLabel | varchar(500) | YES |     | NULL    |       |
| StartingInventory | int | YES |     | NULL    |       |
| InventoryReceived | int | YES |     | NULL    |       |
| InventoryShipped | int | YES |     | NULL    |       |
| InventoryOnHand | int | YES |     | NULL    |       |
| MinimumRequired | int | YES |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
9 rows in set (0.05 sec)
```

## 3)command to insert records in products table.

insert into

products(id,ProductName,PartNumber,ProductLabel,StartingInventory,InventoryReceived,Inventory Shipped,InventoryOnHand,MinimumRequired)

- > values(1,"Dell XPS","XPS 13","Dell XPS 13",5500,360,75,5785,25),
- > (2,"LG Gram","Gram 14","LG Gram 14",4300,1270,900,4670,15),
- > (3,"Dell Alienware","X15R2","Dell Alienware X15R2",200,987,83,1104,18),
- > (4,"Samsung galaxy Book","Book2 360","Samsung galaxy Book2 360",385,2993,630,2748,88),
- > (5,"Acer predator triton","triton 300","Acer predator triton 300",100,8758,7845,1013,71),
- > (6,"Lenovo Thinkpad ","X1 fold","Lenovo Thinkpad X1 fold",673,223,61,835,12),
- > (7,"Lenovo Ideapad","Gaming 3","Lenovo Ideapad Gaming 3",1,150,25,126,10),
- > (8,"Apple MacBook","Pro 16","Apple MacBook Pro 16",25,135,177,-17,20),
- > (9,"HP pavillion","Series 2014","HP pavillion Series 2014",25,0,0,25,10),
- > (10,"Apple MacBook","Air(M2)","Apple MacBook Air(M2)",100,75,654,-479,20),
- > (11,"Acer Aspire","5","Acer Aspire 5",75000,8907,7000,76907,72),
- > (12,"Apple MacBook Pro","13","Apple MacBook Pro 13",50000,69524,79000,40524,80),
- > (13,"Dell Precision","7770","Dell Precision 7770",5600,720,800,5520,21),

```

-> (14,"HP DragonFly Folio","G3","HP DragonFly Folio G3",8500,900,952,8448,15),
-> (15,"HP Victus","15","HP Victus 15",7200,840,799,7241,17),
-> (16,"Acer Aspire Vero","v14","Acer Aspire Vero V14",780,9099,881,8998,29),
-> (17,"HP ChromeBook","X360","HP ChromeBook X360",7204,9532,7951,8785,31),
-> (18,"Apple MacBook Air","20","Apple MacBook Air 20",7600,820,766,7654,18),
-> (19,"Dell","G15","Dell G15",630,860,7952,-6462,70),
-> (20,"HP Spectre","X360","HP Spectre X360",954,862,952,864,95),
-> (21,"HP Envy","16","HP Envy 16",683,960,90,1553,53),
-> (22,"HP Pavillion Aero","13","HP Pavillion Aero 13",94,650,85,659,37),
-> (23,"Acer TravelMate","P2","Acer TravelMate P2",652,952,956,648,26),
-> (24,"Apple MacBook ","A127","Apple MacBook A127",7950,961,952,7959,36),
-> (25,"Dell Latitude","5330","Dell Latitude 5330",95,895,98,892,39);

```

#### 4)select statement to display all records from products table.

select \* from products;

```

mysql> insert into products(id,ProductName,PartNumber,ProductLabel,StartingInventory,InventoryReceived,InventoryShipped,InventoryOnHand,MinimumRequired)
-> values(21,"HP Envy","16","HP Envy 16",683,960,90,1553,53),
-> (22,"HP Pavillion Aero","13","HP Pavillion Aero 13",94,650,85,659,37),
-> (23,"Acer TravelMate","P2","Acer TravelMate P2",652,952,956,648,26),
-> (24,"Apple MacBook ","A127","Apple MacBook A127",7950,961,952,7959,36),
-> (25,"Dell Latitude","5330","Dell Latitude 5330",95,895,98,892,39);
Query OK, 5 rows affected (0.00 sec)
Records: 5 Duplicates: 0 Warnings: 0

mysql> select * from products;

```

	id	ProductName	PartNumber	ProductLabel	StartingInventory	InventoryReceived	InventoryShipped	InventoryOnHand	MinimumRequired
1	1	Dell XPS	XPS 13	Dell XPS 13	5500	360	75	5785	25
2	2	LG Gram	Gram 14	LG Gram 14	4300	1270	900	4670	15
3	3	Dell Alienware	X15R2	Dell Alienware X15R2	200	987	83	1104	18
4	4	Samsung galaxy Book	Book2 360	Samsung galaxy Book2 360	385	2993	630	2748	88
5	5	Acer predator triton	triton 300	Acer predator triton 300	100	8758	7845	1013	71
6	6	Lenovo Thinkpad	X1 fold	Lenovo Thinkpad X1 fold	673	223	61	835	12
7	7	Lenovo Ideapad	Gaming 3	Lenovo Ideapad Gaming 3	1	150	25	126	10
8	8	Apple MacBook	Pro 16	Apple MacBook Pro 16	25	135	177	-17	20
9	9	HP pavillion	Series 2014	HP pavillion Series 2014	25	0	0	25	10
10	10	Apple MacBook	Air(M2)	Apple MacBook Air(M2)	100	75	654	-479	20
11	11	Acer Aspire	5	Acer Aspire 5	75000	8907	7000	76907	72
12	12	Apple MacBook Pro	13	Apple MacBook Pro 13	50000	69524	79000	40524	80
13	13	Dell Precision	7770	Dell Precision 7770	5600	720	800	5520	21
14	14	HP DragonFly Folio	G3	HP DragonFly Folio G3	8500	900	952	8448	15
15	15	HP Victus	15	HP Victus 15	7200	840	799	7241	17
16	16	Acer Aspire Vero	v14	Acer Aspire Vero V14	780	9099	881	8998	29
17	17	HP ChromeBook	X360	HP ChromeBook X360	7204	9532	7951	8785	31
18	18	Apple MacBook Air	20	Apple MacBook Air 20	7600	820	766	7654	18
19	19	Dell	G15	Dell G15	630	860	7952	-6462	70
20	20	HP Spectre	X360	HP Spectre X360	954	862	952	864	95
21	21	HP Envy	16	HP Envy 16	683	960	90	1553	53
22	22	HP Pavillion Aero	13	HP Pavillion Aero 13	94	650	85	659	37
23	23	Acer TravelMate	P2	Acer TravelMate P2	652	952	956	648	26
24	24	Apple MacBook	A127	Apple MacBook A127	7950	961	952	7959	36
25	25	Dell Latitude	5330	Dell Latitude 5330	95	895	98	892	39

25 rows in set (0.00 sec)

## SUPPLIERS TABLE

#### 1)command to create suppliers table.

create table suppliers(

-> id int,

-> Supplier varchar(500),

-> primary key(id)

-> );

## 2)command to describe suppliers table.

desc suppliers;

```
MySQL 8.0 Command Line Client
mysql> create table suppliers(
  -> id int,
  -> Supplier varchar(500),
  -> primary key(id)
  -> );
Query OK, 0 rows affected (0.06 sec)

mysql> desc suppliers;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int           | NO   | PRI | NULL    |       |
| Supplier | varchar(500) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

## 3)command to insert records in suppliers table.

insert into suppliers(id,supplier)

-> values(1001,"Shockwave Tech"),

-> (1002,"Acme Tech"),

-> (1003,"CDW"),

-> (1004,"Diss computers"),

-> (1005,"Hi Tech Laptops"),

-> (1006,"Mindworx InfoTech"),

-> (1007,"Falcon systems");

## 4)select statement for displaying all records from suppliers table.

select \* from suppliers;

```
MySQL 8.0 Command Line Client
"> ^C
mysql> insert into suppliers(id,supplier)
  -> values(1004,"Diss computers"),
  -> (1005,"Hi Tech Laptops"),
  -> (1006,"Mindworx InfoTech"),
  -> (1007,"Falcon systems");
Query OK, 4 rows affected (0.04 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> select * from suppliers;
+-----+-----+
| id | Supplier          |
+-----+-----+
| 1001 | Shockwave Tech   |
| 1002 | Acme Tech        |
| 1003 | CDW              |
| 1004 | Diss computers    |
| 1005 | Hi Tech Laptops  |
| 1006 | Mindworx InfoTech |
| 1007 | Falcon systems    |
+-----+-----+
7 rows in set (0.00 sec)
```

## PURCHASES TABLE

### 1)command to create purchases table.

create table purchases(

-> id int,

-> SupplierId int,

-> ProductId int,

-> NumberReceived int,

-> PurchaseDate date,

-> primary key(id),

-> foreign key(SupplierId) references suppliers(id),

-> foreign key(ProductId) references products(id)

-> );

```
mysql> create table purchases(
-> id int,
-> SupplierId int,
-> ProductId int,
-> NumberReceived int,
-> PurchaseDate date,
-> primary key(id),
-> foreign key(SupplierId) references suppliers(id),
-> foreign key(ProductId) references products(id)
-> );
Query OK, 0 rows affected (0.07 sec)
```

### 2)command to describe purchases table.

Desc purchases;

```
MySQL 8.0 Command Line Client

mysql> desc purchases;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int  | NO   | PRI | NULL    |       |
| SupplierId | int  | YES  | MUL | NULL    |       |
| ProductId | int  | YES  | MUL | NULL    |       |
| NumberReceived | int  | YES  |     | NULL    |       |
| PurchaseDate | date | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)
```

### 3)command for insert records in purchases table.

insert into purchases(id,supplierId,ProductId,NumberReceived,PurchaseDate)

-> values(101,1003,9,20,"2022-06-20"),

-> (102,1003,9,30,"2022-06-30"),

-> (103,1003,7,15,"2022-07-07"),

-> (104,1001,6,10,"2022-07-13"),

-> (105,1001,5,18,"2022-07-28"),  
-> (106,1002,5,20,"2022-08-02"),  
-> (107,1002,1,25,"2022-8-13"),  
-> (108,1004,14,4,"2002-08-15"),  
-> (109,1005,14,26,"2022-08-16"),  
-> (110,1003,16,14,"2022-06-13"),  
-> (111,1004,10,2,"2022-08-11"),  
-> (112,1006,19,13,"2022-07-02"),  
-> (113,1006,20,15,"2022-08-03"),  
-> (114,1007,20,10,"2022-09-01"),  
-> (115,1005,21,16,"2022-06-04"),  
-> (116,1007,21,22,"2022-07-17"),  
-> (117,1002,10,20,"2022-06-23"),  
-> (118,1004,25,21,"2022-07-25"),  
-> (119,1003,25,30,"2022-08-28"),  
-> (120,1006,16,33,"2022-06-08"),  
-> (121,1005,7,22,"2022-05-03"),  
-> (122,1005,7,10,"2022-05-16"),  
-> (123,1006,6,11,"2022-08-29"),  
-> (124,1003,5,44,"2022-09-08"),  
-> (125,1005,7,27,"2022-05-23");

**4)select statement for displaying all records from purchases table.**

select \* from purchases;

```

MySQL 8.0 Command Line Client

mysql> insert into purchases(id,SupplierId,ProductId,NumberReceived,PurchaseDate)
-> values(121,1005,7,22,"2022-05-03"),
-> (122,1005,7,10,"2022-05-16"),
-> (123,1006,6,11,"2022-08-29"),
-> (124,1003,5,44,"2022-09-08");
Query OK, 4 rows affected (0.04 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> select * from purchases;
+----+-----+-----+-----+-----+
| id | SupplierId | ProductId | NumberReceived | PurchaseDate |
+----+-----+-----+-----+-----+
| 101 | 1003 | 9 | 20 | 2022-06-20 |
| 102 | 1003 | 9 | 30 | 2022-06-30 |
| 103 | 1003 | 7 | 15 | 2022-07-07 |
| 104 | 1001 | 6 | 10 | 2022-07-13 |
| 105 | 1001 | 5 | 18 | 2022-07-28 |
| 106 | 1002 | 5 | 20 | 2022-08-02 |
| 107 | 1002 | 1 | 25 | 2022-08-13 |
| 108 | 1004 | 14 | 4 | 2022-08-15 |
| 109 | 1005 | 14 | 26 | 2022-08-16 |
| 110 | 1003 | 16 | 14 | 2022-06-13 |
| 111 | 1004 | 10 | 2 | 2022-08-11 |
| 112 | 1006 | 19 | 13 | 2022-07-02 |
| 113 | 1006 | 20 | 15 | 2022-08-03 |
| 114 | 1007 | 20 | 10 | 2022-09-01 |
| 115 | 1005 | 21 | 16 | 2022-06-04 |
| 116 | 1007 | 21 | 22 | 2022-07-17 |
| 117 | 1002 | 10 | 20 | 2022-06-23 |
| 118 | 1004 | 25 | 21 | 2022-07-25 |
| 119 | 1003 | 25 | 30 | 2022-08-28 |
| 120 | 1006 | 16 | 33 | 2022-06-08 |
| 121 | 1005 | 7 | 22 | 2022-05-03 |
| 122 | 1005 | 7 | 10 | 2022-05-16 |
| 123 | 1006 | 6 | 11 | 2022-08-29 |
| 124 | 1003 | 5 | 44 | 2022-09-08 |

```

## ORDERS TABLE

1)command to create orders table.

create table orders(

-> id int,

-> Title varchar(500),

-> First varchar(500),

-> Middle varchar(500),

-> Last varchar(500),

-> ProductId int,

-> NumberShipped int,

-> OrderDate date,

-> primary key(id),

-> foreign key(ProductId) references products(id)

-> );



## 2)command to describe orders table.

desc orders;

```
MySQL 8.0 Command Line Client
mysql> create table orders(
-> id int,
-> Title varchar(500),
-> First varchar(500),
-> Middle varchar(500),
-> Last varchar(500),
-> ProductId int,
-> NumberShipped int,
-> OrderDate date,
-> primary key(id),
-> foreign key(ProductId) references products(id)
-> );
Query OK, 0 rows affected (0.07 sec)

mysql> desc orders;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id     | int  | NO   | PRI | NULL    |       |
| Title  | varchar(500) | YES |     | NULL    |       |
| First  | varchar(500) | YES |     | NULL    |       |
| Middle | varchar(500) | YES |     | NULL    |       |
| Last   | varchar(500) | YES |     | NULL    |       |
| ProductId | int  | YES | MUL | NULL    |       |
| NumberShipped | int  | YES |     | NULL    |       |
| OrderDate | date | YES |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)
```

## 3)command for inserting records in orders table.

insert into orders(id,Title,First,Middle,Last,ProductId,NumberShipped,OrderDate)

- > values(10001,"Dell XPS 13","Ayush","Suresh","Shinde",1,2,"2022-08-15"),
- > (10002,"Dell XPS 13","Aarti","Ramesh","Jadhav",1,1,"2022-08-17"),
- > (10003,"Lenovo Ideapad Gaming 3","divya","Rajesh","agrawal",7,1,"2022-07-10"),
- > (10004,"Acer Predator Triton 300","Ritesh","Ramdev","Patil",5,2,"2022-07-24"),
- > (10005,"Lenovo Ideapad Gaming 3","Vanita","Ashok","Nipane",7,1,"2022-08-18"),
- > (10006,"Acer Predator Triton 300","Shashank","Dinesh","Joshi",5,2,"2022-07-20"),
- > (10007,"HP Pavillion Series 2014","Prachi","Rao","Desai",9,1,"2022-08-01"),
- > (10008,"Apple MacBook Air(M2)","aditi","santosh","sawant",10,3,"2022-08-09"),
- > (10009,"HP DragonFly Folio","sheetal","vilas","more",14,1,"2022-07-09"),
- > (10010,"HP DragonFly Folio","john","william","almedia",14,2,"2022-08-26"),
- > (10011,"Dell Latitude 5330","leander","bosco","almedia",25,1,"2022-06-22"),
- > (10012,"HP Spectre X360","hitesh","sameer","patel",20,1,"2022-08-23"),
- > (10013,"HP Spectre X360","mukesh","jatin","gusai",20,1,"2022-05-06"),
- > (10014,"HP Envy 16","yash","rakesh","thakkar",21,1,"2022-06-22"),
- > (10015,"HP Envy 16","jyoti","vilas","salunkhe",21,1,"2022-06-24"),
- > (10016,"Dell G15","shravani","krishna","kadam",19,1,"2022-07-25"),
- > (10017,"Dell G15","harisha","lokesh","rajput",19,1,"2022-07-05"),

```

-> (10018,"Dell G15","seema","vishal","nipane",19,1,"2022-08-05"),
-> (10019,"Acer Aspire Vero","samiksha","santosh","shinde",16,3,"2022-05-25"),
-> (10020,"Acer Aspire Vero","rutuja","kishor","sawant",16,2,"2022-08-23"),
-> (10021,"Lenovo Thinkpad X1","natasha","ravi","birla",6,3,"2022-08-09"),
-> (10022,"Lenovo Thinkpad X1","tina","ratan","dabi",6,1,"2022-08-18"),
-> (10023,"Dell XPS 13","flowy","mario","corriea",1,1,"2022-06-08"),
-> (10024,"Dell XPS 13","ajinkya","daulat","gajare",1,2,"2022-07-29"),
-> (10025,"Acer Predator Triton","pranav","dheraj","joshi",5,1,"2022-06-16");

```

#### 4)select statement to display all records from orders table.

select \* from orders;

```

MySQL 8.0 Command Line Client
mysql> insert into orders(id,title,first,middle,last,productId,numberShipped,orderDate)
-> values(10021,"Lenovo Thinkpad X1","natasha","ravi","birla",6,3,"2022-08-09"),
-> (10022,"Lenovo Thinkpad X1","tina","ratan","dabi",6,1,"2022-08-18"),
-> (10023,"Dell XPS 13","flowy","mario","corriea",1,1,"2022-06-08"),
-> (10024,"Dell XPS 13","ajinkya","daulat","gajare",1,2,"2022-07-29"),
-> (10025,"Acer Predator Triton","pranav","dheraj","joshi",5,1,"2022-06-16");
Query OK, 5 rows affected (0.00 sec)
Records: 5 Duplicates: 0 Warnings: 0

mysql> select * from orders;
+----+-----+-----+-----+-----+-----+-----+-----+
| id | Title | First | Middle | Last | ProductId | NumberShipped | OrderDate |
+----+-----+-----+-----+-----+-----+-----+-----+
| 10001 | Dell XPS 13 | Ayush | Suresh | Shinde | 1 | 2 | 2022-08-15 |
| 10002 | Dell XPS 13 | Aarti | Ramesh | Jadhav | 1 | 1 | 2022-08-17 |
| 10003 | Lenovo Ideapad Gaming 3 | divya | Rajesh | agrawal | 7 | 1 | 2022-07-10 |
| 10004 | Acer Predator Triton 300 | Ritesh | Ramdev | Patil | 5 | 2 | 2022-07-24 |
| 10005 | Lenovo Ideapad Gaming 3 | Vanita | Ashok | Nipane | 7 | 1 | 2022-08-18 |
| 10006 | Acer Predator Triton 300 | Shashank | Dinesh | Joshi | 5 | 2 | 2022-07-20 |
| 10007 | HP Pavillion Series 2014 | Prachi | Rao | Desai | 9 | 1 | 2022-08-01 |
| 10008 | Apple MacBook Air(M2) | aditi | santosh | sawant | 10 | 3 | 2022-08-09 |
| 10009 | HP DragonFly Folio | sheetal | vilas | more | 14 | 1 | 2022-07-09 |
| 10010 | HP DragonFly Folio | john | william | almedia | 14 | 2 | 2022-08-26 |
| 10011 | Dell Latitude 5330 | leander | bosco | almedia | 25 | 1 | 2022-06-22 |
| 10012 | HP Spectre X360 | hitesh | sameer | patel | 20 | 1 | 2022-08-23 |
| 10013 | HP Spectre X360 | mukesh | jatin | gusai | 20 | 1 | 2022-05-06 |
| 10014 | HP Envy 16 | yash | rakesh | thakkar | 21 | 1 | 2022-06-22 |
| 10015 | HP Envy 16 | jyoti | vilas | salunkhe | 21 | 1 | 2022-06-24 |
| 10016 | Dell G15 | shravani | krishna | kadam | 19 | 1 | 2022-07-25 |
| 10017 | Dell G15 | harisha | lokesh | rajput | 19 | 1 | 2022-07-05 |
| 10018 | Dell G15 | seema | vishal | nipane | 19 | 1 | 2022-08-05 |
| 10019 | Acer Aspire Vero | samiksha | santosh | shinde | 16 | 3 | 2022-05-25 |
| 10020 | Acer Aspire Vero | rutuja | kishor | sawant | 16 | 2 | 2022-08-23 |
| 10021 | Lenovo Thinkpad X1 | natasha | ravi | birla | 6 | 3 | 2022-08-09 |
| 10022 | Lenovo Thinkpad X1 | tina | ratan | dabi | 6 | 1 | 2022-08-18 |
| 10023 | Dell XPS 13 | flowy | mario | corriea | 1 | 1 | 2022-06-08 |
| 10024 | Dell XPS 13 | ajinkya | daulat | gajare | 1 | 2 | 2022-07-29 |
| 10025 | Acer Predator Triton | pranav | dheraj | joshi | 5 | 1 | 2022-06-16 |
+----+-----+-----+-----+-----+-----+-----+-----+
25 rows in set (0.00 sec)

```

## FINDING INSIGHTS FROM ABOVE TABLES

### 1)USING JOINS:

1)fetch sum of inventory on hand of products which are more than 5000 and productname using aggregate function.

select ProductId,ProductName,sum(InventoryOnHand) from purchases

inner join products

on products.id=purchases.ProductId

group by ProductId,ProductName

having sum(InventoryOnHand)>5000;

```
MySQL 8.0 Command Line Client
+-----+
12 rows in set (0.00 sec)

mysql> select ProductId,ProductName,sum(InventoryOnHand) from purchases
-> inner join products
-> on products.id=purchases.ProductId
-> group by ProductId,ProductName
-> having sum(InventoryOnHand)>5000;
+-----+
| ProductId | ProductName | sum(InventoryOnHand) |
+-----+
| 1 | Dell XPS | 5785 |
| 14 | HP DragonFly Folio | 16896 |
| 16 | Acer Aspire Vero | 17996 |
+-----+
3 rows in set (0.00 sec)

mysql>
```

**2)fetch products details which are from “HP” brand with its purchase date.**

select ProductId,ProductName,PurchaseDate from products

inner join purchases

on products.id=purchases.ProductId

where ProductName like "HP%";

```
MySQL 8.0 Command Line Client

mysql> select ProductId,ProductName,PurchaseDate from products
-> inner join purchases
-> on products.id=purchases.ProductId
-> where ProductName like "HP%";
+-----+
| ProductId | ProductName | PurchaseDate |
+-----+
| 9 | HP pavillion | 2022-06-20 |
| 9 | HP pavillion | 2022-06-30 |
| 14 | HP DragonFly Folio | 2002-08-15 |
| 14 | HP DragonFly Folio | 2022-08-16 |
| 20 | HP Spectre | 2022-08-03 |
| 20 | HP Spectre | 2022-09-01 |
| 21 | HP Envy | 2022-06-04 |
| 21 | HP Envy | 2022-07-17 |
+-----+
8 rows in set (0.00 sec)

mysql>
```

**3)fetch average of InventoryOnHand and productname of common products using aggregate function.**

select ProductId,ProductName,avg(InventoryOnHand) from purchases

inner join products

on products.id=purchases.ProductId

group by ProductId,ProductName;

```
Select MySQL 8.0 Command Line Client

mysql> select ProductId,ProductName,avg(InventoryOnHand) from purchases
-> inner join products
-> on products.id=purchases.ProductId
-> group by ProductId,ProductName;
+-----+-----+-----+
| ProductId | ProductName | avg(InventoryOnHand) |
+-----+-----+-----+
| 1 | Dell XPS | 5785.0000 |
| 5 | Acer predator triton | 1013.0000 |
| 6 | Lenovo Thinkpad | 835.0000 |
| 7 | Lenovo Ideapad | 126.0000 |
| 9 | HP pavillion | 25.0000 |
| 10 | Apple MacBook | -479.0000 |
| 14 | HP DragonFly Folio | 8448.0000 |
| 16 | Acer Aspire Vero | 8998.0000 |
| 19 | Dell | -6462.0000 |
| 20 | HP Spectre | 864.0000 |
| 21 | HP Envy | 1553.0000 |
| 25 | Dell Latitude | 892.0000 |
+-----+-----+-----+
12 rows in set (0.00 sec)
```

#### 4)left join between products and purchases.

select ProductId,ProductName,PurchaseDate from products

left join purchases

on products.id=purchases.ProductId;

```
MySQL 8.0 Command Line Client

mysql> select ProductId,ProductName,PurchaseDate from products
-> left join purchases
-> on products.id=purchases.ProductId;
+-----+-----+-----+
| ProductId | ProductName | PurchaseDate |
+-----+-----+-----+
| 1 | Dell XPS | 2022-08-13 |
| NULL | LG Gram | NULL |
| NULL | Dell Alienware | NULL |
| NULL | Samsung galaxy Book | NULL |
| 5 | Acer predator triton | 2022-07-28 |
| 5 | Acer predator triton | 2022-08-02 |
| 5 | Acer predator triton | 2022-09-08 |
| 6 | Lenovo Thinkpad | 2022-07-13 |
| 6 | Lenovo Thinkpad | 2022-08-29 |
| 7 | Lenovo Ideapad | 2022-07-07 |
| 7 | Lenovo Ideapad | 2022-05-03 |
| 7 | Lenovo Ideapad | 2022-05-16 |
| 7 | Lenovo Ideapad | 2022-05-23 |
| NULL | Apple MacBook | NULL |
| 9 | HP pavillion | 2022-06-20 |
| 9 | HP pavillion | 2022-06-30 |
| 10 | Apple MacBook | 2022-08-11 |
+-----+-----+-----+
```

#### 5)right join between products and purchases.

select ProductId,ProductName,PurchaseDate from products

right join purchases

on products.id=purchases.ProductId;

```

MySQL 8.0 Command Line Client
mysql> select ProductId,ProductName,PurchaseDate from products
-> right join purchases
-> on products.id=purchases.ProductId;
+-----+-----+-----+
| ProductId | ProductName | PurchaseDate |
+-----+-----+-----+
| 9 | HP pavillion | 2022-06-20 |
| 9 | HP pavillion | 2022-06-30 |
| 7 | Lenovo Ideapad | 2022-07-07 |
| 6 | Lenovo Thinkpad | 2022-07-13 |
| 5 | Acer predator triton | 2022-07-28 |
| 5 | Acer predator triton | 2022-08-02 |
| 1 | Dell XPS | 2022-08-13 |
| 14 | HP DragonFly Folio | 2022-08-15 |
| 14 | HP DragonFly Folio | 2022-08-16 |
| 16 | Acer Aspire Vero | 2022-06-13 |
| 10 | Apple MacBook | 2022-08-11 |
| 19 | Dell | 2022-07-02 |
| 20 | HP Spectre | 2022-08-03 |
| 20 | HP Spectre | 2022-09-01 |
| 21 | HP Envy | 2022-06-04 |
| 21 | HP Envy | 2022-07-17 |
| 10 | Apple MacBook | 2022-06-23 |
| 25 | Dell Latitude | 2022-07-25 |
| 25 | Dell Latitude | 2022-08-28 |
| 16 | Acer Aspire Vero | 2022-06-08 |
| 7 | Lenovo Ideapad | 2022-05-03 |
| 7 | Lenovo Ideapad | 2022-05-16 |
| 6 | Lenovo Thinkpad | 2022-08-29 |
| 5 | Acer predator triton | 2022-09-08 |
| 7 | Lenovo Ideapad | 2022-05-23 |
+-----+-----+-----+
25 rows in set (0.00 sec)

```

6)fetch productname along with purchasesdate between 2022-08-1 and 2022-08-30 .

```
select ProductId,ProductName,PurchaseDate from products
```

```
inner join purchases
```

```
on products.id=purchases.ProductId
```

```
where PurchaseDate between "2022-08-01" and "2022-08-30";
```

```

MySQL 8.0 Command Line Client
mysql> select ProductId,ProductName,PurchaseDate from products
-> inner join purchases
-> on products.id=purchases.ProductId
-> where PurchaseDate between "2022-08-01" and "2022-08-30";
+-----+-----+-----+
| ProductId | ProductName | PurchaseDate |
+-----+-----+-----+
| 5 | Acer predator triton | 2022-08-02 |
| 1 | Dell XPS | 2022-08-13 |
| 14 | HP DragonFly Folio | 2022-08-16 |
| 10 | Apple MacBook | 2022-08-11 |
| 20 | HP Spectre | 2022-08-03 |
| 25 | Dell Latitude | 2022-08-28 |
| 6 | Lenovo Thinkpad | 2022-08-29 |
+-----+-----+-----+
7 rows in set (0.00 sec)

```

7)fetch products details which are having "Lenovo" brand.

```
select ProductId,ProductName from products
```

```
inner join purchases
```

```
on products.id=purchases.ProductId
```

```
group by ProductId
```

```
having ProductName like "Lenovo%";
```

```
Select MySQL 8.0 Command Line Client

mysql> select ProductId,ProductName from products
-> inner join purchases
-> on products.id=purchases.ProductId
-> group by ProductId
-> having ProductName like "Lenovo%";
+-----+-----+
| ProductId | ProductName |
+-----+-----+
| 6 | Lenovo Thinkpad |
| 7 | Lenovo Ideapad |
+-----+-----+
2 rows in set (0.00 sec)

mysql> _
```

**8)fetch product details which has orderdate between 2022-07-01 and 2022-07-30.**

select ProductId,First,ProductName,InventoryReceived from orders

inner join products

on orders.ProductId=products.id

where OrderDate between "2022-07-01" and "2022-07-30";

```
MySQL 8.0 Command Line Client

mysql> select ProductId,First,ProductName,InventoryReceived from orders
-> inner join products
-> on orders.ProductId=products.id
-> where OrderDate between "2022-07-01" and "2022-07-30";
+-----+-----+-----+-----+
| ProductId | First | ProductName | InventoryReceived |
+-----+-----+-----+-----+
| 7 | divya | Lenovo Ideapad | 150 |
| 5 | Ritesh | Acer predator triton | 8758 |
| 5 | Shashank | Acer predator triton | 8758 |
| 14 | sheetal | HP DragonFly Folio | 900 |
| 19 | shravani | Dell | 860 |
| 19 | harisha | Dell | 860 |
| 1 | ajinkya | Dell XPS | 360 |
+-----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> _
```

**9)fetch product details where buyer name start with "s" alphabet and having buyer full name.**

select ProductId,concat(First," ",Last),ProductName from orders

inner join products

on orders.ProductId=products.id

where first like "s%";

MySQL 8.0 Command Line Client

```
mysql> select ProductId,concat(First," ",Last),ProductName from orders
-> inner join products
-> on orders.ProductId=products.id
-> where first like "s%";
```

ProductId	concat(First," ",Last)	ProductName
5	Shashank Joshi	Acer predator triton
14	sheetal more	HP DragonFly Folio
19	shravani kadam	Dell
19	seema nipane	Dell
16	samiksha shinde	Acer Aspire Vero

5 rows in set (0.00 sec)

mysql>

**10)fetch products details where number of products shipped/delivered is more than or equal to 2.**

```
select ProductId,ProductName,First from orders
```

```
inner join products
```

```
on orders.ProductId=products.id
```

```
group by ProductId,NumberShipped
```

```
having NumberShipped>=2;
```

MySQL 8.0 Command Line Client

```
mysql> select ProductId,ProductName,First from orders
-> inner join products
-> on orders.ProductId=products.id
-> group by ProductId,NumberShipped
-> having NumberShipped>=2;
```

ProductId	ProductName	First
1	Dell XPS	Ayush
5	Acer predator triton	Ritesh
10	Apple MacBook	aditi
14	HP DragonFly Folio	john
16	Acer Aspire Vero	samiksha
16	Acer Aspire Vero	rutuja
6	Lenovo Thinkpad	natasha

7 rows in set (0.00 sec)

mysql>

**11) right join between products and orders fetching first 10 records.**

```
select orders.id,ProductId,ProductName from products
```

```
left join orders
```

```
on orders.ProductId=products.id
```

```
order by ProductName asc
```

limit 10;

```
MySQL 8.0 Command Line Client

mysql> select orders.id,ProductId,ProductName from products
->   left join orders
->   on orders.ProductId=products.id
->   order by ProductName asc
->   limit 10;

+-----+-----+-----+
| id | ProductId | ProductName |
+-----+-----+-----+
| NULL | NULL | Acer Aspire |
| 10019 | 16 | Acer Aspire Vero |
| 10020 | 16 | Acer Aspire Vero |
| 10004 | 5 | Acer predator triton |
| 10006 | 5 | Acer predator triton |
| 10025 | 5 | Acer predator triton |
| NULL | NULL | Acer TravelMate |
| NULL | NULL | Apple MacBook |
| NULL | NULL | Apple MacBook |
| NULL | NULL | Apple MacBook Air |
+-----+-----+-----+
10 rows in set (0.00 sec)

mysql>
```

## 12) right join between products and orders fetching first 5 records.

select orders.id,ProductId,ProductName,First from products

right join orders

on orders.ProductId=products.id

order by ProductName desc

limit 5;

```
MySQL 8.0 Command Line Client

mysql> select orders.id,ProductId,ProductName,First from products
->   right join orders
->   on orders.ProductId=products.id
->   order by ProductName desc
->   limit 5;

+-----+-----+-----+-----+
| id | ProductId | ProductName | First |
+-----+-----+-----+-----+
| 10021 | 6 | Lenovo Thinkpad | natasha |
| 10022 | 6 | Lenovo Thinkpad | tina |
| 10003 | 7 | Lenovo Ideapad | divya |
| 10005 | 7 | Lenovo Ideapad | Vanita |
| 10012 | 20 | HP Spectre | hitesh |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql>
```

## 13)fetch suppliers details where purchase date is between 2022-06-01 and 2022-06-30.

select suppliers.id,suppliers.supplier,PurchaseDate from suppliers

inner join purchases

on suppliers.id=purchases.SupplierId

where PurchaseDate between "2022-06-01" and "2022-06-30";



```

MySQL 8.0 Command Line Client

mysql> select suppliers.id,suppliers.supplier,PurchaseDate from suppliers
-> inner join purchases
-> on suppliers.id=purchases.SupplierId
-> where PurchaseDate between "2022-06-01" and "2022-06-30";
+-----+-----+-----+
| id | supplier | PurchaseDate |
+-----+-----+-----+
| 1003 | CDW | 2022-06-20 |
| 1003 | CDW | 2022-06-30 |
| 1003 | CDW | 2022-06-13 |
| 1005 | Hi Tech Laptops | 2022-06-04 |
| 1002 | Acme Tech | 2022-06-23 |
| 1006 | Mindworx InfoTech | 2022-06-08 |
+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>

```

#### 14) fetch product details where suppliername is "cdw".

```

select suppliers.id,ProductName,supplier from products
inner join purchases
on products.id=purchases.ProductId
inner join suppliers
on purchases.SupplierId=suppliers.id
where supplier="cdw";

```

```

MySQL 8.0 Command Line Client

7 rows in set (0.00 sec)

mysql> select suppliers.id,ProductName,supplier from products
-> inner join purchases
-> on products.id=purchases.ProductId
-> inner join suppliers
-> on purchases.SupplierId=suppliers.id
-> where supplier="cdw";
+-----+-----+-----+
| id | ProductName | supplier |
+-----+-----+-----+
| 1003 | HP pavillion | CDW |
| 1003 | HP pavillion | CDW |
| 1003 | Lenovo Ideapad | CDW |
| 1003 | Acer Aspire Vero | CDW |
| 1003 | Dell Latitude | CDW |
| 1003 | Acer predator triton | CDW |
+-----+-----+-----+
6 rows in set (0.00 sec)

mysql>

```

#### 15)fetch first,second and third highest starting inventory.

```

select * from products order by StartingInventory desc limit 1;

select * from products order by StartingInventory desc limit 1,1;

select * from products order by StartingInventory desc limit 2,1;

```

```
mysql> select * from products order by StartingInventory desc limit 1;
```

id	ProductName	PartNumber	ProductLabel	StartingInventory	InventoryReceived	InventoryShipped	InventoryOnHand	MinimumRequired
11	Acer Aspire	5	Acer Aspire 5	75000	8907	7000	76907	72

```
1 row in set (0.00 sec)
```

```
mysql> select * from products order by StartingInventory desc limit 1,1;
```

id	ProductName	PartNumber	ProductLabel	StartingInventory	InventoryReceived	InventoryShipped	InventoryOnHand	MinimumRequired
12	Apple MacBook Pro	13	Apple MacBook Pro 13	50000	69524	79000	40524	80

```
1 row in set (0.00 sec)
```

```
mysql> select * from products order by StartingInventory desc limit 2,1;
```

id	ProductName	PartNumber	ProductLabel	StartingInventory	InventoryReceived	InventoryShipped	InventoryOnHand	MinimumRequired
14	HP DragonFly Folio	G3	HP DragonFly Folio G3	8500	900	952	8448	15

```
1 row in set (0.00 sec)
```

```
mysql>
```

## 2) USING SUBQUERIES:

**1)fetch products details where numbers of product shipped is more than or equal to 2 and orderdate is between 2022-07-01 and 2022-07-30.**

select \* from products where id in(select ProductId from orders where NumberShipped>=2 and OrderDate between "2022-07-01" and "2022-07-30");

```
mysql> select * from products where id in(select ProductId from orders where NumberShipped>=2 and OrderDate between "2022-07-01" and "2022-07-30");
```

id	ProductName	PartNumber	ProductLabel	StartingInventory	InventoryReceived	InventoryShipped	InventoryOnHand	MinimumRequired
5	Acer predator triton	triton 300	Acer predator triton 300	100	8758	7845	1013	71
1	Dell XPS	XPS 13	Dell XPS 13	5500	360	75	5785	25

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

```
mysql>
```

```
mysql>
```

```
mysql>
```

**2)fetch purchases details where starting inventory of product is more than 7000.**

select \* from purchases where ProductId in(select id from products where StartingInventory>7000);

```
Select MySQL 8.0 Command Line Client
mysql> select * from purchases where ProductId in(select id from products where StartingInventory>7000);
+-----+-----+-----+-----+-----+
| id | SupplierId | ProductId | NumberReceived | PurchaseDate |
+-----+-----+-----+-----+-----+
| 108 | 1004 | 14 | 4 | 2002-08-15 |
| 109 | 1005 | 14 | 26 | 2022-08-16 |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

**3)fetch purchases details of products where productname is “HP pavillion” and “HP Envy”.**

select \* from purchases where ProductId in(select id from products where ProductName="HP pavillion" or ProductName="HP Envy");

```
mysql> select * from purchases where ProductId in(select id from products where ProductName="HP pavillion" or ProductName="HP Envy");
+-----+-----+-----+-----+-----+
| id | SupplierId | ProductId | NumberReceived | PurchaseDate |
+-----+-----+-----+-----+-----+
| 101 | 1003 | 9 | 20 | 2022-06-20 |
| 102 | 1003 | 9 | 30 | 2022-06-30 |
| 115 | 1005 | 21 | 16 | 2022-06-04 |
| 116 | 1007 | 21 | 22 | 2022-07-17 |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

**4)fetch purchases details of products where “Acme tech” is supplier of products.**

select \* from purchases where SupplierId in(select id from suppliers where supplier="Acme tech");

```
mysql> select * from purchases where SupplierId in(select id from suppliers where supplier="Acme tech");
+-----+-----+-----+-----+-----+
| id | SupplierId | ProductId | NumberReceived | PurchaseDate |
+-----+-----+-----+-----+-----+
| 106 | 1002 | 5 | 20 | 2022-08-02 |
| 107 | 1002 | 1 | 25 | 2022-08-13 |
| 117 | 1002 | 10 | 20 | 2022-06-23 |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

