|  |  |  |  |
| --- | --- | --- | --- |
| CustomerID | CustomerName | ContactName | Country |
| 1 | Alfreds | Maria Anders | Germany |
| 2 | Ana Trujillo | Ana Trujillo | Mexico |
| 3 | Antonio | Antonio Moreno | Mexico |
| 4 | Around the | Thomas Hardy | UK |

**1. Complex Join Query**

Customer Table

Order Table

|  |  |  |  |
| --- | --- | --- | --- |
| OrderID | CustomerID | OrderDate | ShipperID |
| 1 | 1 | 2022-03-12 | 1 |
| 2 | 2 | 2022-04-15 | 2 |
| 3 | 3 | 2022-06-10 | 3 |
| 4 | 1 | 2022-08-01 | 1 |

Shippers Table:

|  |  |  |
| --- | --- | --- |
| ShipperID | ShipperName | Phone |
| 1 | Speedy | (503) 555-9831 |
| 2 | United | (503) 555-3199 |
| 3 | Federal | (503) 555-9931 |

Note that these tables are just an example, and you should modify them

--1. customer

create table customer(

customerId int primary key identity,

customerName varchar(25),

contactName varchar(25),

country varchar(25)

)

insert into customer values ('Saqib','Bilal','Karachi'),('Sohal','Ahmad Ali','Lahor'),('Akram','Zehsaan','Karachi'),('Zakir','Numaan','Lahor')

insert into orderss values ('2020-3-22',1,1),('2019-2-24',2,2),('2021-4-15',3,3),('2023-1-12',1,1)

--3. order

create table orderss(

OrderId int primary key identity,

orderDate date ,

cusId int,

shipperId int,

Foreign key (cusId) references customer(customerId),

Foreign key (shipperId) references shippers(shipperId),

)

insert into orderss values ('2022-3-12',1,1),('2022-2-16',2,2),('2022-4-15',3,3),('2023-1-13',1,1)

--2 shirper

create table shippers(

shipperId int primary key identity,

ShipperName varchar(25),

Phone varchar(25)

)

insert into shippers values ('Sadeeq','555-9831'),('daraz','555-9831'),('AliBaba','555-9831')

//\_\_\_\_\_ Select All \_\_\_\_\_\_\_

select

\*

from orderss o

inner join customer c on o.cusId = c.customerId

inner join shippers s on o.shipperId = s.shipperId

//\_\_\_\_\_ Select Required Record + where + order \_\_\_\_\_\_\_

select

o.orderDate,

c.customerName,

c.contactName,

c.country,

s.ShipperName,

s.Phone

from orderss o

inner join customer c on o.cusId = c.customerId

inner join shippers s on o.shipperId = s.shipperId

where o.orderDate Between '2022-1-1' And '2023-1-1'

order by o.orderDate desc

**2. Complex Join+subquery+where+order+groupby**

SELECT c.CustomerName, o.OrderID, o.OrderDate, SUM(od.Quantity \* od.UnitPrice) AS TotalPrice, s.ShipperName FROM Customers c INNER JOIN Orders o ON c.CustomerID = o.CustomerID INNER JOIN ( SELECT OrderID, ProductID, Quantity, UnitPrice FROM OrderDetails ) od ON o.OrderID = od.OrderID INNER JOIN Shippers s ON o.ShipperID = s.ShipperID WHERE o.OrderDate BETWEEN '2022-01-01' AND '2022-12-31' GROUP BY c.CustomerName, o.OrderID, o.OrderDate, s.ShipperName ORDER BY TotalPrice DESC;

//\_\_\_\_\_ Add Detail + modfy table \_\_\_\_\_\_\_\_

alter table customer

add orderDetail\_id int null foreign key references orderDetail(od\_Id)

create table orderDetail(

od\_Id int primary key identity,

UnitPrice int,

Quantity int

)

insert into orderDetail values (400,5),(450,10),(40,5),(100,5),(100,9)

alter table orderDetail

add productId int null foreign key references product(id)

--1 Mouse 250.00

--2 USB 250.00

--3 Keyboard 250.00

--4 Computer 250.00

select \* from product

select \* from customer

update customer

set orderDetail\_id = 3

where customerId =4

update orderDetail

set productId = 2

where od\_Id =3

//\_\_\_\_\_ Join \_\_\_\_\_\_\_\_

---\_\_\_ 1st Way \_\_\_\_

SELECT c.CustomerName, o.OrderID, o.OrderDate, SUM(od.Quantity \* od.UnitPrice) AS TotalPrice, s.ShipperName

FROM customer c

INNER JOIN Orderss o ON c.CustomerID = o.cusId

INNER JOIN orderDetail od ON o.OrderID = od.od\_Id

INNER JOIN Shippers s ON o.ShipperID = s.ShipperID

WHERE o.OrderDate BETWEEN '2022-01-01' AND '2022-12-31'

GROUP BY c.CustomerName, o.OrderID, o.OrderDate, s.ShipperName

ORDER BY TotalPrice DESC

---\_\_\_ 2nd Way \_\_\_\_

SELECT c.CustomerName, o.OrderID, o.OrderDate,od.TotalPrice , s.ShipperName

FROM customer c

INNER JOIN Orderss o ON c.CustomerID = o.cusId

INNER JOIN (

SELECT

od\_Id,

productId,

Quantity,

UnitPrice,

SUM(Quantity \* UnitPrice) AS TotalPrice

FROM orderDetail

group by od\_Id,productId,Quantity,UnitPrice

) od ON o.OrderID = od.od\_Id

INNER JOIN Shippers s ON o.ShipperID = s.ShipperID

WHERE o.OrderDate BETWEEN '2022-01-01' AND '2022-12-31'

ORDER BY TotalPrice DESC

This query joins four tables: Customers, Orders, OrderDetails, and Shippers. It calculates the total price of each order by multiplying the quantity and unit price of each product in the order, and then summing up the results. The query also groups the results by customer name, order ID, order date, and shipper name, and sorts the results by total price in descending order.