1. **The sales management database consists of the following relationships:**

**Customer**(CustomerID, CustName, CustAddress, CustPhone, Birthday, RegisterDate, Revenue)

**Employee**(EmpID,EmpName, EmpPhone, StartDate)

**Product** (ProductID,ProductName, Unit, Country, Price)

**Bill** (BillID, BillDate, CustomerID, EmpID, BillVal)

**DetailBill**(BillID,ProductID, Quantity)

1. **Create the following tables in the database:**

|  |  |  |  |
| --- | --- | --- | --- |
| Tables | Attributes | Description | Data type |
| Customer | CustomerID | Customer Code | char(4) |
| CustName | Customer Name | varchar(40) |
| CustAddress | Customer Address | varchar(50) |
| CustPhone | Customer Phone | varchar(20) |
| Birthday | Customer birthday | smalldatetime |
| RegisterDate | Member registration date | smalldatetime |
| Revenue | The total value of the purchased customer bills | money |
| Employee | EmpID | Employee Code | char(4) |
| EmpName | Employee Name | varchar(40) |
| EmpPhone | Employee Phone | varchar(20) |
| StartDate | Start date working | smalldatetime |
| Product | ProductID | Product Code | char(4) |
| ProductName | Product Name | varchar(40) |
| Unit | Unit of calculation | varchar(20) |
| Country | Country has produced product | varchar(40) |
| Price | Price of product | money |
| Bill | BillID | Bill Code | int |
| BillDate | Purchase date | smalldatetime |
| CustomerID | Customer Code | char(4) |
| EmpID | Employee Code | char(4) |
| BillVal | Invoice value | money |
| DetailBill | BillID | Bill Code | int |
| ProductID | Product Code | char(4) |
| Quantity | Quantity | int |

1. **Write the query to display the following requirements:**
2. Show ProductID, ProductName produced by “Viet Nam”
3. Show ProductID, ProductName has unit is “cay”, “quyen”
4. Show ProductID, ProductName has product code start by “B” and end by “01”
5. Show ProductID, ProductName produced by “Trung Quoc” and price from 30.000 to 40.000
6. Show ProductID, ProductName produced by “Trung Quoc” or “Viet Nam” and price from 30.000 to 40.000
7. Show BillID, BillVal are sold on 1/1/2007 and 2/1/2007
8. Show BillID, BillVal are sold on January 2017, order by date (ascending) and invoice value(descending)
9. Show **CustomerID, CustName have bought product on 1/1/2007**
10. Show BillID, BillVal are recorded by employee “Nguyen Van B” on 28/10/2006
11. Show ProductID, ProductName are bought by customer “Nguyen Van A” on 10/2006
12. Show BillID have ProductID is “BB01” or “BB02”
13. Show BillID have ProductID is “BB01” or “BB02” with each quantity from 10 to 20
14. Show BillID have bought 2 products “BB01” and “BB02” at the same time, each quantity from 10 to 20 (hint: use INTERSECT)
15. Show ProductID, ProductName are produced by “Trung Quoc” and sold on **1/1/2007**
16. **Show the revenue in 2006**
17. Show ProductID, ProductName not sold (hint: use NOT IN, NOT EXISTS or EXCEPT)
18. Show ProductID, ProductName not sold in 2006
19. Show ProductID, ProductName not sold in 2006 produced by “Trung Quoc”
20. Show the number of invoices have bought by non-member customer
21. Show the number of different products were sold in 2006.
22. Show the highest and lowest invoice value
23. Show the average of invoice value were sold in 2006
24. Show BillID has the highest invoice value in 2006
25. Show CustName have bought the highest invoice value in 2006
26. Show 3 customers (**CustomerID, CustName) have highest revenue**
27. Show a list of products (ProductID, ProductName) that sells at one of the three highest prices.
28. Show a list of products (ProductID, ProductName) that sells at one of the three highest prices produced by “Thai Lan”
29. **Show the total of products produced by “Trung Quoc”**
30. **Show the total of products of each country.**
31. **Show the revenue per day.**
32. **Show the customer(CustomerID, CustName) have the number of times purchasing is highest**
33. **Show the country where the total number of products is the largest**
34. Show BillID have bought all products produced by Singapore
35. Show BillID have bought all products produced by Singapore in 2006.

**---- insert data into tables----**

**set dateformat dmy**

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**-- Customer**

**insert into Customer values('C01','Nguyen Van A','731 Tran Hung Dao, Q5, TpHCM','8823451','22/10/1960','22/07/2006',13060000)**

**insert into Customer values('C02','Tran Ngoc Han','23/5 Nguyen Trai, Q5, TpHCM','908256478','03/04/1974','30/07/2006',280000)**

**insert into Customer values('C03','Tran Ngoc Linh','45 Nguyen Canh Chan, Q1, TpHCM','938776266','12/06/1980','08/05/2006',3860000)**

**insert into Customer values('C04','Tran Minh Long','50/34 Le Dai Hanh, Q10, TpHCM','917325476','09/03/1965','10/02/2006',250000)**

**insert into Customer values('C05','Le Nhat Minh','34 Truong Dinh, Q3, TpHCM','8246108','10/03/1950','28/10/2006',21000)**

**insert into Customer values('C06','Le Hoai Thuong','227 Nguyen Van Cu, Q5, TpHCM','8631738','31/12/1981','24/11/2006',915000)**

**insert into Customer values('C07','Nguyen Van Tam','32/3 Tran Binh Trong, Q5, TpHCM','916783565','06/04/1971','12/01/2006',12500)**

**insert into Customer values('C08','Phan Thi Thanh','45/2 An Duong Vuong, Q5, TpHCM','938435756','10/01/1971','13/12/2006',365000)**

**insert into Customer values('C09','Le Ha Vinh','873 Le Hong Phong, Q5, TpHCM','8654763','03/09/1979','14/01/2007',70000)**

**insert into Customer values('C10','Ha Duy Lap','34/34B Nguyen Trai, Q1, TpHCM','8768904','02/05/1983','16/01/2007',67500)**

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**-- Employee**

**insert into Employee values('E01','Nguyen Nhu Nhut','927345678','13/04/2006')**

**insert into Employee values('E02','Le Thi Phi Yen','987567390','21/04/2006')**

**insert into Employee values('E03','Nguyen Van B','997047382','27/04/2006')**

**insert into Employee values('E04','Ngo Thanh Tuan','913758498','24/06/2006')**

**insert into Employee values('E05','Nguyen Thi Truc Thanh','918590387','20/07/2006')**

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**-- Product**

**insert into Product values('BC01','But chi','cay','Singapore',3000)**

**insert into Product values('BC02','But chi','cay','Singapore',5000)**

**insert into Product values('BC03','But chi','cay','Viet Nam',3500)**

**insert into Product values('BC04','But chi','hop','Viet Nam',30000)**

**insert into Product values('BB01','But bi','cay','Viet Nam',5000)**

**insert into Product values('BB02','But bi','cay','Trung Quoc',7000)**

**insert into Product values('BB03','But bi','hop','Thai Lan',100000)**

**insert into Product values('TV01','Tap 100 giay mong','quyen','Trung Quoc',2500)**

**insert into Product values('TV02','Tap 200 giay mong','quyen','Trung Quoc',4500)**

**insert into Product values('TV03','Tap 100 giay tot','quyen','Viet Nam',3000)**

**insert into Product values('TV04','Tap 200 giay tot','quyen','Viet Nam',5500)**

**insert into Product values('TV05','Tap 100 trang','chuc','Viet Nam',23000)**

**insert into Product values('TV06','Tap 200 trang','chuc','Viet Nam',53000)**

**insert into Product values('TV07','Tap 100 trang','chuc','Trung Quoc',34000)**

**insert into Product values('ST01','So tay 500 trang','quyen','Trung Quoc',40000)**

**insert into Product values('ST02','So tay loai 1','quyen','Viet Nam',55000)**

**insert into Product values('ST03','So tay loai 2','quyen','Viet Nam',51000)**

**insert into Product values('ST04','So tay','quyen','Thai Lan',55000)**

**insert into Product values('ST05','So tay mong','quyen','Thai Lan',20000)**

**insert into Product values('ST06','Phan viet bang','hop','Viet Nam',5000)**

**insert into Product values('ST07','Phan khong bui','hop','Viet Nam',7000)**

**insert into Product values('ST08','Bong bang','cai','Viet Nam',1000)**

**insert into Product values('ST09','But long','cay','Viet Nam',5000)**

**insert into Product values('ST10','But long','cay','Trung Quoc',7000)**

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**-- Bill**

**insert into Bill values(1001,'23/07/2006','C01','E01',320000)**

**insert into Bill values(1002,'12/08/2006','C01','E02',840000)**

**insert into Bill values(1003,'23/08/2006','C02','E01',100000)**

**insert into Bill values(1004,'01/09/2006','C02','E01',180000)**

**insert into Bill values(1005,'20/10/2006','C01','E02',3800000)**

**insert into Bill values(1006,'16/10/2006','C01','E03',2430000)**

**insert into Bill values(1007,'28/10/2006','C03','E03',510000)**

**insert into Bill values(1008,'28/10/2006','C01','E03',440000)**

**insert into Bill values(1009,'28/10/2006','C03','E04',200000)**

**insert into Bill values(1010,'01/11/2006','C01','E01',5200000)**

**insert into Bill values(1011,'04/11/2006','C04','E03',250000)**

**insert into Bill values(1012,'30/11/2006','C05','E03',21000)**

**insert into Bill values(1013,'12/12/2006','C06','E01',5000)**

**insert into Bill values(1014,'31/12/2006','C03','E02',3150000)**

**insert into Bill values(1015,'01/01/2007','C06','E01',910000)**

**insert into Bill values(1016,'01/01/2007','C07','E02',12500)**

**insert into Bill values(1017,'02/01/2007','C08','E03',35000)**

**insert into Bill values(1018,'13/01/2007','C08','E03',330000)**

**insert into Bill values(1019,'13/01/2007','C01','E03',30000)**

**insert into Bill values(1020,'14/01/2007','C09','E04',70000)**

**insert into Bill values(1021,'16/01/2007','C10','E03',67500)**

**insert into Bill values(1022,'16/01/2007',Null,'E03',7000)**

**insert into Bill values(1023,'17/01/2007',Null,'E01',330000)**

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**-- DetailBill**

**insert into DetailBill values(1001,'TV02',10)**

**insert into DetailBill values(1001,'ST01',5)**

**insert into DetailBill values(1001,'BC01',5)**

**insert into DetailBill values(1001,'BC02',10)**

**insert into DetailBill values(1001,'ST08',10)**

**insert into DetailBill values(1002,'BC04',20)**

**insert into DetailBill values(1002,'BB01',20)**

**insert into DetailBill values(1002,'BB02',20)**

**insert into DetailBill values(1003,'BB03',10)**

**insert into DetailBill values(1004,'TV01',20)**

**insert into DetailBill values(1004,'TV02',10)**

**insert into DetailBill values(1004,'TV03',10)**

**insert into DetailBill values(1004,'TV04',10)**

**insert into DetailBill values(1005,'TV05',50)**

**insert into DetailBill values(1005,'TV06',50)**

**insert into DetailBill values(1006,'TV07',20)**

**insert into DetailBill values(1006,'ST01',30)**

**insert into DetailBill values(1006,'ST02',10)**

**insert into DetailBill values(1007,'ST03',10)**

**insert into DetailBill values(1008,'ST04',8)**

**insert into DetailBill values(1009,'ST05',10)**

**insert into DetailBill values(1010,'TV07',50)**

**insert into DetailBill values(1010,'ST07',50)**

**insert into DetailBill values(1010,'ST08',100)**

**insert into DetailBill values(1010,'ST04',50)**

**insert into DetailBill values(1010,'TV03',100)**

**insert into DetailBill values(1011,'ST06',50)**

**insert into DetailBill values(1012,'ST07',3)**

**insert into DetailBill values(1013,'ST08',5)**

**insert into DetailBill values(1014,'BC02',80)**

**insert into DetailBill values(1014,'BB02',100)**

**insert into DetailBill values(1014,'BC04',60)**

**insert into DetailBill values(1014,'BB01',50)**

**insert into DetailBill values(1015,'BB02',30)**

**insert into DetailBill values(1015,'BB03',7)**

**insert into DetailBill values(1016,'TV01',5)**

**insert into DetailBill values(1017,'TV02',1)**

**insert into DetailBill values(1017,'TV03',1)**

**insert into DetailBill values(1017,'TV04',5)**

**insert into DetailBill values(1018,'ST04',6)**

**insert into DetailBill values(1019,'ST05',1)**

**insert into DetailBill values(1019,'ST06',2)**

**insert into DetailBill values(1020,'ST07',10)**

**insert into DetailBill values(1021,'ST08',5)**

**insert into DetailBill values(1021,'TV01',7)**

**insert into DetailBill values(1021,'TV02',10)**

**insert into DetailBill values(1022,'ST07',1)**

**insert into DetailBill values(1023,'ST04',6)**