Task#03

Aggregate functions, Group By & Joins

Read this before starting: Copy the queries in a text file and submit it on slate. Label the queries properly and do not send me (only) screenshots of the query.

Question#01

Create the following tables:

CUSTOMER
Id (P.K.)
FirstName
LastName
City
Country
Phone

ORDER
Id (P.K.)
OrderDate
OrderNumber
CustomerId (F.K.)
TotalAmount

Insert around 20-30 records in the customer table and a full week's record in the order table so that you are able to see the results of the queries properly.

Note: Take a look at the queries below before inserting any record in the table.

1. List the number of customers in each country. Only include countries with more than 10 customers.
2. List the number of customers in each country, except the USA, sorted high to low. Only include countries with 9 or more customers.
3. List all CustomerId's with average orders between $1000 and $1200.
4. List the total number of customers from each city in each country **(Consider the fact that two cities in different countries might have the same name)**.
5. List the sum of orders for each day in a particular week (e.g. sum of orders for each day (Monday to Friday) for the first week of December).
6. List the number of orders placed by each customer.
7. List the CustomerId of the **most valued** customer.
8. List the CustomerId of the **least valued** customer.
9. List the date on which the company had the best sale.

Question#02

Create the table listed below (emp_id is primary key) and insert the data as shown:

emp_id	first_name	last_name	email	hire_date	job_id	salary	manager_id	dept_id
100	Steven	King	SKING	6/17/1987	AD_PRES	24000	0	90
101	Neena	Kochhar	NKOCHHAR	6/18/1987	AD_VP	17000	100	90
102	Lex	De Haan	LDEHAAN	6/19/1987	AD_VP	17000	100	90
103	Alexander	Hunold	AHUNOLD	6/20/1987	IT_PROG	9000	102	60
104	Bruce	Ernst	BERNST	6/21/1987	IT_PROG	6000	103	60
105	David	Austin	DAUSTIN	6/22/1987	IT_PROG	4800	103	60
106	Valli	Pataballa	VPATABAL	6/23/1987	IT_PROG	4800	103	60
107	Diana	Lorentz	DLORENTZ	6/24/1987	IT_PROG	4200	103	60
108	Nancy	Greenberg	NGREENBE	6/25/1987	FI_MGR	12000	101	100
109	Daniel	Faviet	DFAVIET	6/26/1987	FI_ACCOUNT	9000	108	100
110	John	Chen	JCHEN	6/27/1987	FI_ACCOUNT	8200	108	100
111	Ismael	Sciarra	ISCIARRA	6/28/1987	FI_ACCOUNT	7700	108	100
112	Jose Manue	Urman	JMURMAN	6/29/1987	FI_ACCOUNT	7800	108	100
113	Luis	Popp	LPOPP	6/30/1987	FI_ACCOUNT	6900	108	100
114	Den	Raphaely	DRAPHEAL	7/1/1987	PU_MAN	11000	100	30
115	Alexander	Khoo	AKHOO	7/2/1987	PU_CLERK	3100	114	30
116	Shelli	Baida	SBAIDA	7/3/1987	PU_CLERK	2900	114	30
117	Sigal	Tobias	STOBIAS	7/4/1987	PU_CLERK	2800	114	30
118	Guy	Himuro	GHIMURO	7/5/1987	PU_CLERK	2600	114	30
119	Karen	Colmenares	KCOLMENA	7/6/1987	PU_CLERK	2500	114	30
120	Matthew	Weiss	MWEISS	7/7/1987	ST_MAN	8000	100	50
121	Adam	Fripp	AFRIPP	7/8/1987	ST_MAN	8200	100	50
122	Payam	Kaufling	PKAUFLIN	7/9/1987	ST_MAN	7900	100	50
123	Shanta	Vollman	SVOLLMAN	7/10/1987	ST_MAN	6500	100	50

1. List the number of employees, total salary paid to employees that work in each department.

2. List the number of employees working **in each department under each manager**.

3. List the average salaries paid to each designation (job_id).

4. List the manager under whom the most number of employees are working.

5. List the average salaries paid to each designation in each department.

6. List the number of employees working under each manager in ascending order.

7. List the number of managers in each department.

8. List the departments that has more than 3 employees.

9. List the department that has the most number of employees.

10. List the department that the least number of employees.

Question #03

Download the file **northwind.sql** from resources on slate and run the script. You do not have to create a database yourself, the script will create a database named "northwind" with the tables shown in the following diagram:
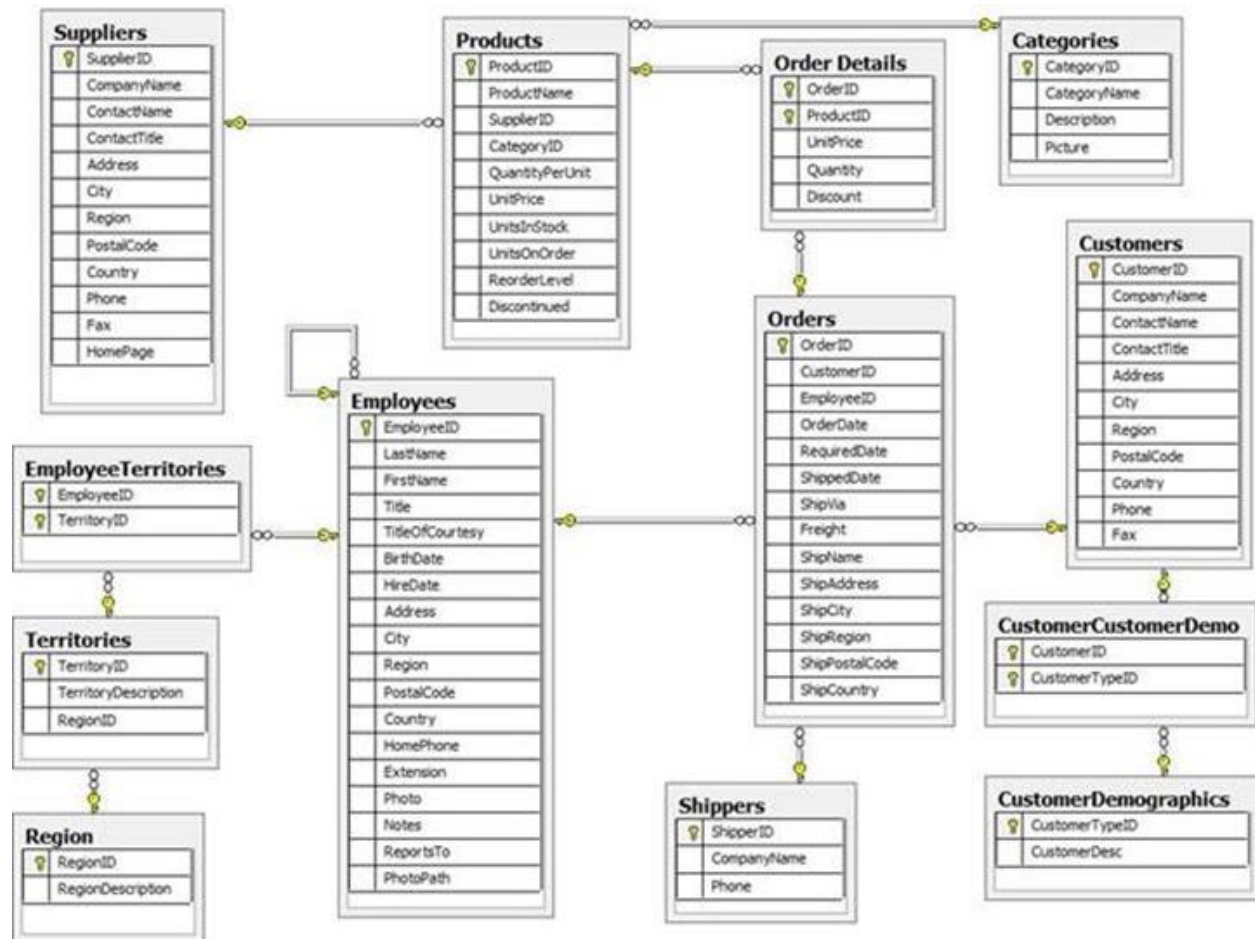
1. Get list of all the orders processed with a specific category name (you can use any category).

2. Get the product name and count of orders processed for that product.

3. Get the list of the employees who processed the orders belongs to his own city.

4. Get the list of the employees who processed the orders doesn't belongs to his own city.

5. Get the shipper company who processed the order categories "Seafood".

6. Get category name, count of orders processed by the USA employees.

7. For each order, calculate a subtotal for each Order.

8. For each employee, get their sales amount.

9. Get an alphabetical list of products along with the category and supplier of each product.

10. Get the count of products in each category.

Question#04

Consider the following Tables:

p_id	p_name	units	unit_price	type	s_id
1005	Ponstan	100	15	Tablets	312
1421	Brufen	25	35	Syrup	657
3215	Avil	122	26	Syrup	478
1215	Flagyl	42	30	Tablets	987
7513	Avil	140	20	Injection	478
1216	Flagyl	10	35	Syrup	987
1007	Disprin	98	15	Tablets	320

Table 1: products [p_id(P.K), s_id(F.K)]

s_id	s_name	contact	city
320	Munir Brothers	0321-1234567	Karachi
312	Alliance Pharmaceuticals	0313-7654321	Peshawar
478	Abbot Pharmaceuticals	0300-9876543	Lahore
657	Sanofi Aventis	0333-5632476	Islamabad
987	Ferozsons laboratories	0301-1934257	Peshawar

Table 2: suppliers [s_id(P.K)]

order_id	customer_name	order_date
22	Waleed Ali	11/25/2014
23	Azhar Akbar	12/02/2014
24	Shahzeb Khan	12/05/2014
25	Javed Iqbal	01/15/2015
26	Tariq Khan	06/23/2015

Table 3: orders [order_id(P.K)]

p_id	order_id	units_purchased
1007	22	5
1216	22	1
1005	22	4
1421	23	1
1005	23	1
3215	23	2
7513	23	3
1421	24	2
1215	24	1
1005	25	5
1215	26	1
1421	26	3

Table 4: order_detail [(p_id, order_id)(P.k)]

Create the tables and insert data as shown (you do not have to submit queries of table creation and insertion). Do the following:

1. Show order id, customer name and order date for those orders in which *Flagyl Syrup* was sold.

2. Show complete order details **(with information from products, orders and order_detail table)** for the Customer *Javed Iqbal.*

3. Show the number of products for the supplier named *Muneer Brothers.*

4. Delete the *Avil* syrup product from the product table.

5. Show products along with suppliers names for those suppliers that are in Peshawar.

6. Show the number of products *Sanofi Aventis* are supplying.

Question#05

Download the file **sales_co.sql** from resources on slate and run the script. You will get the following tables:

```
+-----------------------------+
| Tables_in_sales_co          |
+-----------------------------+
| CUSTOMER                    |
| INVOICE                     |
| LINE                        |
| PRODUCT                     |
| VENDOR                      |
+-----------------------------+
```

You can check the description of each table by writing **desc table_name** (e.g. desc INVOICE). Do the following:

1. Show the customer's last name, invoice number, invoice date and total amount for all customers.

2. Show the customer's last name, invoice number, invoice date and total amount for those customers having purchased items.

Using the line table, customer, invoice table, retrieve the information shown in the following figures (on next page):

3.

```
CUS_LNAME       INV_NUMBER INV_DATE  P_DESCRIPT
--------------- ---------- --------- -----------------------------------
O'Brian               1007 17-JAN-04 7.25-in. pwr. saw blade
Smith                 1003 16-JAN-04 7.25-in. pwr. saw blade
Orlando               1001 16-JAN-04 7.25-in. pwr. saw blade
Smith                 1003 16-JAN-04 Hrd. cloth, 1/4-in., 2x50
Orlando               1006 17-JAN-04 B&D jigsaw, 12-in. blade
Smith                 1003 16-JAN-04 B&D cordless drill, 1/2-in.
Dunne                 1008 17-JAN-04 Claw hammer
Orlando               1006 17-JAN-04 Claw hammer
Dunne                 1004 17-JAN-04 Claw hammer
Orlando               1001 16-JAN-04 Claw hammer
O'Brian               1007 17-JAN-04 Rat-tail file, 1/8-in. fine

CUS_LNAME       INV_NUMBER INV_DATE  P_DESCRIPT
--------------- ---------- --------- -----------------------------------
Dunne                 1004 17-JAN-04 Rat-tail file, 1/8-in. fine
Dunne                 1002 16-JAN-04 Rat-tail file, 1/8-in. fine
Orlando               1006 17-JAN-04 Hicut chain saw, 16 in.
Dunne                 1008 17-JAN-04 PVC pipe, 3.5-in., 8-ft
Farriss               1005 17-JAN-04 PVC pipe, 3.5-in., 8-ft
Orlando               1006 17-JAN-04 1.25-in. metal screw, 25
Dunne                 1008 17-JAN-04 Steel matting, 4'x8'x1/6", .5" mesh
```

Fig 1: Customer Invoice Info

4.

```
P_DESCRIPT                              INV_NUMBER INV_DATE
----------------------------------- ---------- ---------
7.25-in. pwr. saw blade                   1007 17-JAN-04
7.25-in. pwr. saw blade                   1003 16-JAN-04
7.25-in. pwr. saw blade                   1001 16-JAN-04
Hrd. cloth, 1/4-in., 2x50                 1003 16-JAN-04
B&D jigsaw, 12-in. blade                  1006 17-JAN-04
B&D cordless drill, 1/2-in.               1003 16-JAN-04
Claw hammer                               1008 17-JAN-04
Claw hammer                               1006 17-JAN-04
Claw hammer                               1004 17-JAN-04
Claw hammer                               1001 16-JAN-04
Rat-tail file, 1/8-in. fine               1007 17-JAN-04

P_DESCRIPT                              INV_NUMBER INV_DATE
----------------------------------- ---------- ---------
Rat-tail file, 1/8-in. fine               1004 17-JAN-04
Rat-tail file, 1/8-in. fine               1002 16-JAN-04
Hicut chain saw, 16 in.                   1006 17-JAN-04
PVC pipe, 3.5-in., 8-ft                   1008 17-JAN-04
PVC pipe, 3.5-in., 8-ft                   1005 17-JAN-04
1.25-in. metal screw, 25                  1006 17-JAN-04
Steel matting, 4'x8'x1/6", .5" mesh       1008 17-JAN-04
```

Fig 2: Product Invoice Info