# **Practical 12**

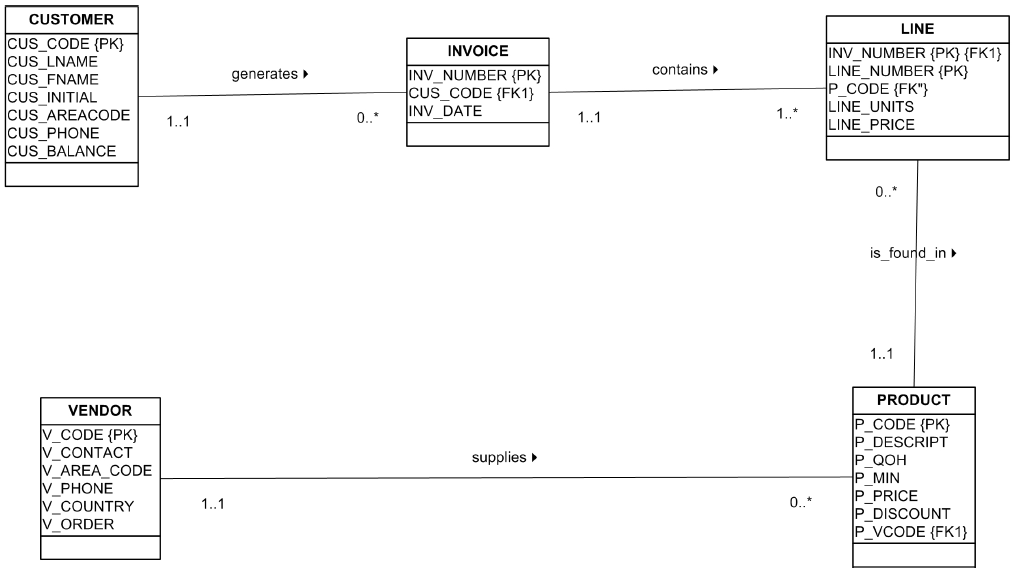
INDADD 2015/2016  
Introduction to Database Analysis and 柄  
School of Computing  
Week 12: SQL revision

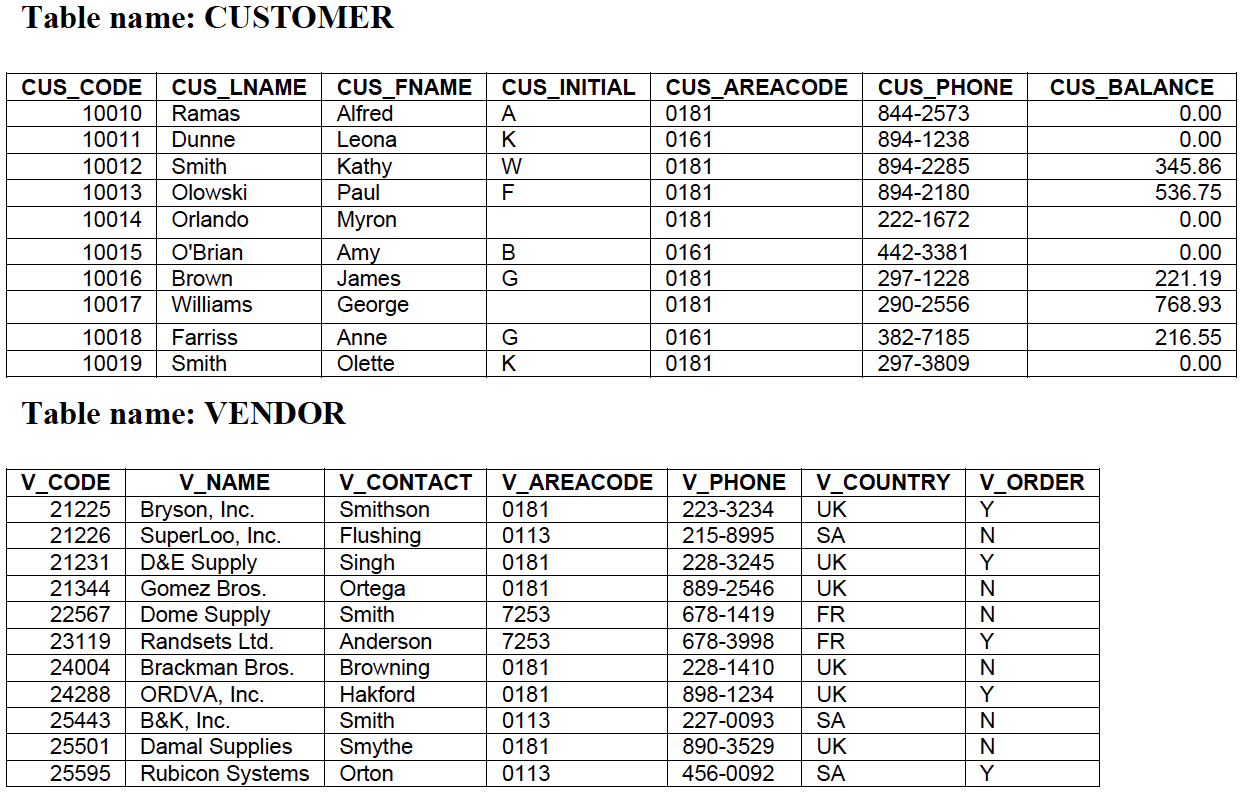
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## Part I:

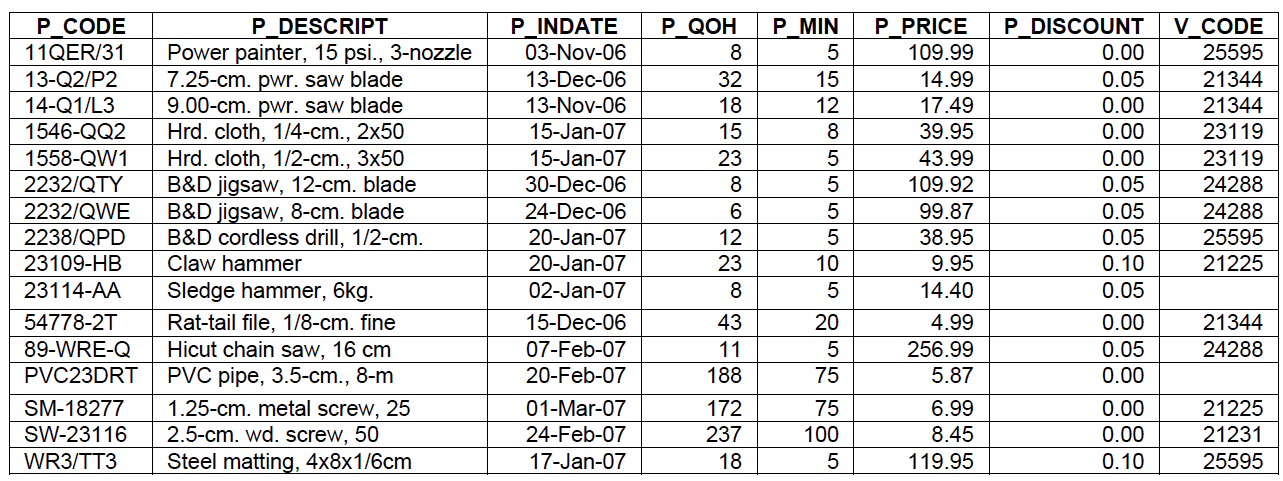
Implement the following ERD on your MySQL server and enter all the records.

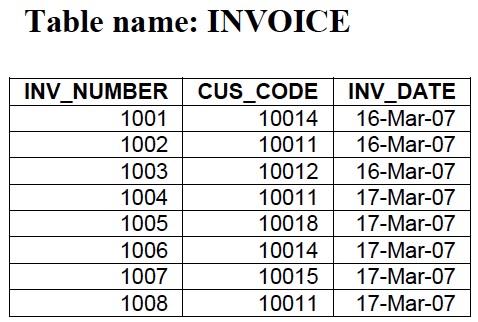
## Case study

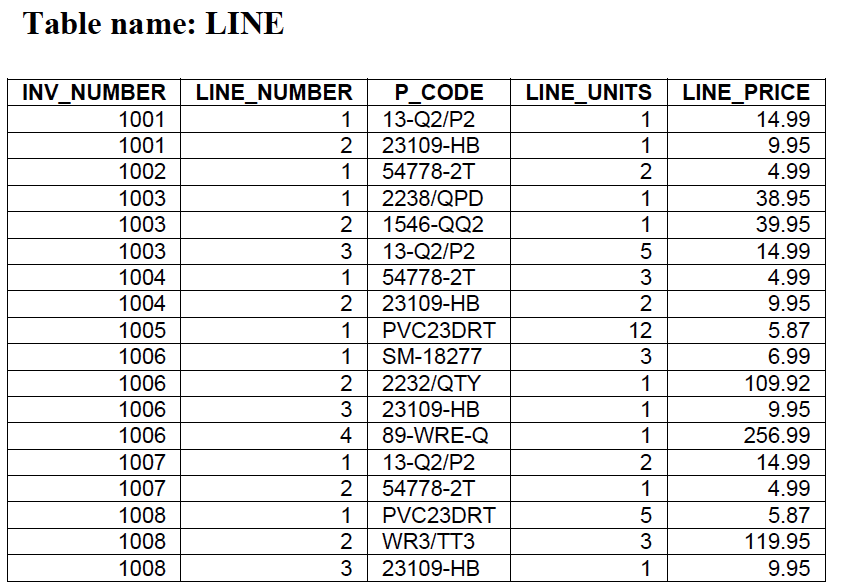




## Table name: Product







## Part II (Quiz):

Answer all the following questions, the answers will be discussed with you on next practical (1st week in the 2nd teaching block)

**1. Write query to list the CUS\_CODE and CUS\_LNAME for all the customers. What is the equivalent relational algebra for your SQL query?**

SELECT CUS\_CODE, CUS\_LNAME FROM CUSTOMER;

**2. Write query to list the CUS\_CODE and CUS\_LNAME for all the customers ordered by CUS\_LNAME**

SELECT CUS\_CODE, CUS\_LNAME FROM CUSTOMER

ORDER BY CUS\_LNAME;

**3. Write query to list the CUS\_CODE and CUS\_LNAME for all the customers with balance greater than 300 ordered by price.**

SELECT CUS\_CODE, CUS\_LNAME FROM CUSTOMER

GROUP BY CUS\_BALANCE

HAVING CUS\_BALANCE >= 300;

**4. Write query to list the P\_DESCRIPTION and V\_CODE for all the products in which the price is less than 50. What is the equivalent relational algebra for your SQL query?**

SELECT P\_DESCRIPT, V\_CODE FROM PRODUCT

WHERE P\_PRICE <= 50;

**5. Write a query to list the P\_DESCRIPTION and V\_NAME for all the products. What is the equivalent relational algebra for your SQL query?**

SELECT P\_DESCRIPT, V\_NAME

FROM PRODUCT, VENDOR

WHERE PRODUCT.V\_CODE = VENDOR.V\_CODE;

**6. Write a query to count the number of invoices.**

SELECT COUNT(\*) FROM INVOICE;

**7. Write a query to count the number of customers with a customer balance over 500.**

SELECT COUNT(\*) FROM CUSTOMER

WHERE CUS\_BALANCE >=500;

**8. Write a query to calculate the average price of all the products.**

SELECT AVG(P\_PRICE)

FROM PRODUCT;

**10. Create a query to produce the following output.**

SELECT V\_CODE, COUNT(V\_CODE), AVG(P\_PRICE)

FROM PRODUCT

GROUP BY V\_CODE;

## Captionless Image

## Answers:

1. Write a query to list the CUS\_CODE and CUS\_LNAME for all the customers. What is the equivalent relational algebra for your SQL query? Select CUS\_CODE, CUS\_LNAME From CUSTOMER;

2. Write query to list the CUS\_CODE and CUS\_LNAME for all the customers ordered by CUS\_LNAME Select CUS\_CODE, CUS\_LNAME From CUSTOMER Order By CUS\_LNAME;

3. Write query to list the CUS\_CODE and CUS\_LNAME for all the customers with balance greater than 300 ordered by price. Select CUS\_CODE, CUS\_LNAME From CUSTOMER Where CUS\_BALANCE > 300;

4. Write query to list the P\_DESCRIPTION and V\_CODE for all the products in which the price is less than 50. What is the equivalent relational algebra for your SQL query? Select P\_DESCRIPTION, V\_CODE From PRODUCT Where P\_Price <50;

5. Write a query to list the P\_DESCRIPTION and V\_NAME for all the products. What is the equivalent relational algebra for your SQL query? Select Select P\_DESCRIPTION, V\_NAME From Product P, Vendor V Where P.V\_CODE = V.V\_CODE; or Select P\_DESCRIPTION, V\_NAME From Product P Join Vendor V On P.V\_CODE = V.V\_CODE;

6. Write a query to count the number of invoices. Select Count(\*) From INVOICES;

7. Write a query to count the number of customers with a customer balance over 500. Select Count(\*) From CUSTOMER Where CUS\_BALANCE > 500;

8. Write a query to calculate the average price of all the products. Select AVG(P\_PRICE) From PRODUCT;

9. Create a query to produce the total purchase per invoice, generating the results shown in the table below. The Invoice Total is the sum of the product purchases in the LINE that corresponds to the INVOICE. Select INV\_NUMBER, Count(LINE\_PRICE) as 'Invoice Total' From LINE Group By INV\_NUMBER;

10. Create a query to produce the following output. Select V\_CODE, Count(V\_CODE) as 'Items count', AVG(P\_PRICE) as 'Avg Price' From PRODUCT Group By V\_Code