

## Assignment2 TPC-H Schema

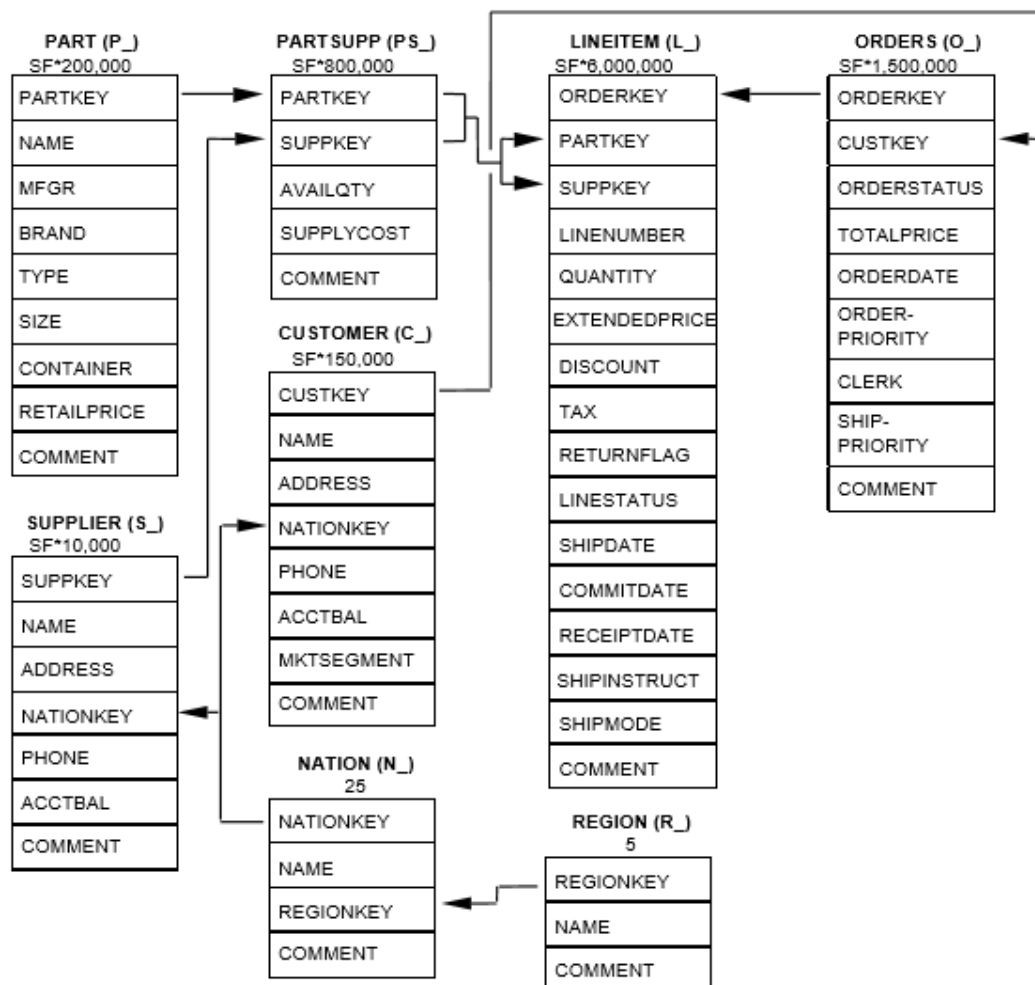
There are several search problems on some related table named *TPC-H Schema*.

You have to choose some of the problems and give out solution since the sum of the points of all questions is greater than 100. In general, harder problem means more points.

The following picture shows the structure of these tables.

Note that the first attribute is primary key of that table (example: PARTKEY is primary key of PART)

Figure 2: The TPC-H Schema



## Task1

Create a user with your name and a database named tpc\_h, import all tables in the file folder *data*, and list all tables in your database. (5 points)

## Task2

- a) Display name,address,nationkey of the supplier whose suppkey is 717. (5 points)
  
- b) For each **ship priority**, find the total number of **orders** that are ordered in 1992-1993.Display the ship priority and the corresponding total number of orders in descending order. (8 points)
  
- c) Find the **suppliers** that can supply the **part** whose key is 360. Display their names, phones, nations and regions.(8 points)
  
- d) Display the **keys** and **names** of **suppliers** who supplied more **parts** in 1993 than he did in 1992, and the **number of parts** he supplied in 1992 and 1993. Notice that you need to show the number of part he supplied in 1992 and 1993 separately in you answer.(15 points)
  
- e) Display the keys of orders who has suppliers come from Europe. (8 points)

- f) Display the **customer** who is not **European**.(8 points )
- g) Display **average quantity** of lineitems which are ordered **in November 1997** for **each ship mode except “AIR” and “MAIL”**. Show the results in **ascending order** of the average quantity.(15 points)
- h) Show the total number of customers in **each region**. (8 points)
- i) Display all the info (partkey,name,...,coment)of the top 5 parts with the largest size.(5 points)
- j) Find the customer whose **phone** is 25-XXX-XXX-XXXX ( 5 points)
- k) Find the **lineitem** which has the maximum **extended price** and is ordered before 1997. Display the value of this maximum extended price.(10 points)

### **Task3**

Use b\_tree or hash index to accelerate problem a), j) and k) in Task2

Show your acceleration and try to compare the efficiency of different indexes.( 20 points)