

DEADLINE: April 15th , 23:00

DATABASE HOMEWORK-1

1. TASK 1(5 POINTS)

Install PostgreSQL

2. TASK 2(15 POINTS)

Use dbgen to generate all tables in TPC-H

Transfer data into JSON type

Load all data in TPC-H into PostgreSQL

3. TASK 3(80 POINTS)

According to the **TPC-H schema**, write the SQL statements for the following queries and paste the screenshots of executing the queries (if the result is too long, you can reserve only part of it). Please consider the **efficiency** of your SQL statements.

- Q1: Display the key and total price of orders which are ordered with priority "2-HIGH" on September 29th, 1994. (10 points)
- Q2: For each order priority, find the total number of orders that are ordered after January 1st, 1998. Display the order priority and the corresponding total number of orders in descending order. (10 points)
- Q3: Display total quantity of lineitems which are ordered in November 1998 for each ship mode except "MAIL". (10 points)
- Q4: Find the lineitem which has the maximum extended price and is ordered before 1997. Display the value of this maximum extended price. (10 points)
- Q5: Find out the part whose supplier's key is 39. Display the parts' name and size. (10 points)
- Q6: Find the top 3 parts, in terms of their total quantity shipped from 1993.1.1 to 1995.12.12 . List the parts' keys, names,

brands and total quantity. Display the results in descending order of the total quantity. (15 points)

- Q7: Find out the costumers who had ordered “AIR” ship at least 2 times in 1996. Display their keys, names, addresses, phones and the total of their orders in 1996. (15 points)

4. TASK 4(BONUS)

This task is optional. Describe any problems that you encounter, how you solve them and your understanding of TPC-H. If you have any suggestions to this homework or database course, please feel free to tell us.

5. SUBMISSION

A zip package named as “sid_ename_hw1.zip” which contains:

- A pdf file with questions 1 to 10 and screenshots.
- A script named “query.sql” with queries(SQL statement) for every question.
- (Optional)A pdf file with your answer of Task 4.