SQL Extra Exercises

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Consider the following database.

- **employee(person_name,street,city)**
- **works(person_name,company_name,salary)**
- **company(company_name,city)**
- **manage(person_name,manager_name)**

Give a SQLfor each of the following operations

1. Find the name of employees who earn more than 10,000 and live in Hong Kong.
2. Find the name of the employees who are not managers.
3. Find the names of all persons who work for "First Bank Corporation" and live in the city where the company is located.
4. Find the names, cities of employees who work for exactly ONE company.
5. Find the names of all employees who earn more than SOME employee of Small Bank Corporation.
6. Find the company located in Hong Kong that has the largest number of employees.
7. Find all companies located in Hong Kong and have total payroll less than 100,000.

Consider the following database.

- **cust(cust_id,name)**
- **withdraw(w_id,cust_id,acc_id,date,amount)**

Give a SQLfor each of the following operations

8 Find all the names of the ustomers who have withdrawn more than 1000 dollars in a single withdrawal. If a customer made several such withdrawals, his/her name should be reported only once.

9 Sometimes there may be a shared account, namely, an account owned by multiple customers. Assume all the owners of a shared account have made withdrawals from the account. Find the *acc_id* of all the shared accounts.

10 Let the interesting account be the account from which the withdrawal with the smallest amount was made. Find the *acc_id* of accounts from which withdrawals have been made, except the interesting account.

Consider the following database.

- **deposit(dep_id,acc_id,cust_id,amount)**

Give a SQLfor each of the following operations

11 Find the *cust_id* of the customers who deposited into both of accounts 'A1' and 'A2'. (with only one SELECT)

12 Find the *cust_id* of the customers who deposited into both of accounts 'A1' or 'A2' but not both. You query should contain only one SELECT.

13 Find the ids of the accounts which have been deposited into by more than one customer, (without) using GROUP BY.

14 Find the *cust_id* of the customer who deposited the largest number of times.

15 Find the *stu_id* of every student who scored at least 80 in all the courses he/she took, but scored less than 90 in at least one course, with no more than 2/only one SELECT.

16 Outer joins can be defined by using conventional SQL. Under the following schema,

- **cs_prof(prof_id,name)**
- **supervision(prof_id,stu_id)**

rewrite the following SQL without outer join.

```
SELECT prof_id, name, stu_id
FROM cs_prof LEFT OUTER JOIN supervision
     ON cs_prof.prof_id=supervision.prof_id
```