SQL Practice Questions

Consider the following schema definitions:

Branch	(branchNo, street, city, postcode)
Staff	(staffNo, fName,lName, position, sex, DOB, salary, branchNo)
PropertyforRent	(propertyNo, street, city, postcode, type, rooms, rent, ownerNo, staffNo, branchNo)
Client	(clientNo, fName, lName, telNo, prefType, maxRent)
PrivateOwner	(ownerNo, fName, lName, address, telNo)
Viewing	(clientNo, propertyNo, viewDate, comment)
Registration	(clientNo, branchNo, staffNo, dateJoined)

An instance of the above schemas is given in the last page of the examination. (You may detach and use it if necessary)

For each case below, fill in the blanks such that the SQL queries correspond to the English language queries stated. *Each blank is worth 2 points*.

1. List the address of all branch offices in London or Bristol.

SELECT _____*****_____
FROM ___**branch**_____
WHERE city='London' _**OR city='bristol'**_____

2. List the staff with a salary between $10000 and $30000.

SELECT staff_No
FROM Staff
WHERE __**salary between 10000 AND 30000**_____

3. List the staff in descending order of salary.

SELECT staff_No, salary
FROM Staff
ORDER BY __**salary DESC**_____

4. Find the number of different properties viewed in April 2004.

SELECT __**count (distinct propert_no)**
FROM Viewing
WHERE viewDate BETWEEN '1-Apr-04' AND '30-Apr-04'

5. Find the minimum, maximum and average staff salary.

SELECT **_min(salary)____**, **_max(salary)_**, **_avg(salary)_____**
FROM Staff

6. For each branch office with more than one member of staff, find the number of staff working in each branch and the sum of their salaries.

SELECT branchNo, **_count(staffno)_**, **__sum(salary)___**
FROM Staff
GROUP BY branchNo
HAVING **__count(staffNo) >1**

7. List the staff who work in the branch whose stree adress is ‘163 Main Street’

SELECT staffNo, fName, lName,
FROM Staff
WHERE **_branchNo_____** = (SELECT branchNo
FROM **_branch_____**
WHERE **_street=’163 Main str’_**)

8. Find all staff whose salary is larger than the salary of every staff member at branch with branchNo B003.

SELECT staffNo, fName, lName, position, salary
FROM Staff
WHERE **_salary > ALL_____**(SELECT salary
FROM **__staff_____**
WHERE brancNo=’B003’)

9. For each branch, list the numbers and names of staff who manage properties, including the city in which the branch is located and the properties that the staff manage.

SELECT b.branchNo, b.city, s.staffNo, fName, lName, properyNo
FROM Branch AS b, Staff AS s, **_propertyforRent p**
WHERE b.branchNo = s.branchNo AND **_s.staffNo=p.staffno**

10. List the clients who have viewed a property.

SELECT clientNo, fName, lName, propertyNo, viewDate
FROM **__client natural innerjoin viewing_____**

11. Find the list of all cities where there is both a branch office and a property

(SELECT city
FROM Branch)
___INTERSECT_____
(SELECT city
FROM **_PropertyforRent__**)

12. Give all managers 5% increase to their salary

UPDATE **__staff_____**
SET **__salary=salary*1.05**
WHERE position=’Manager’

13. Delete all viewings that belong to property with property number PG4.

DELETE FROM **__viewing_____**
WHERE **_propertyNo=’P64’__**

A- Consider the following relation schema for an airline database.

customer(<u>id</u>, name, age, gender)
onFlight(<u>id</u>, <u>flightNo</u>, <u>flightDate</u>)
flightInfo(<u>flightNo</u>, fromCity, toCity, startTime, duration)

Assume all flights take place every day. Fill in the missing slots in each ofd the queries below. Each slot is worth 2 pts, except the first one, which is worth 1 pt.

1. Names of all customers above the age of 10

SELECT _____name

FROM customer

WHERE _____ age>10

2. Flights (flightNo, flightDate) on which there are at least two customers

SELECT f1.flightNo, f1.flightDate

FROM onFlight as f1, onFlight as f2

WHERE f1.flightNo = f2.flightNo AND f1.flightDate=f2.flightDate AND _____ f1.id <> f2.id

3. Flights (flightNo, flightDate) on which there are at least two customers, as well as the number of passengers on the flights

SELECT flightNo, flightDate, count(id) as howMany

FROM onFlight

GROUP BY _____ flightNo, flightDate

HAVING _____ howMany>1

4. Names of passengers who flew on flight “TK102” at least once

SELECT name

FROM customer, onFlight

WHERE _____ customer.id=onFlight.id AND

_____ onFlight.flightNo=”TK102”

5. Names of customers who never flew on any flight

SELECT name

FROM customer _____ left outer join flight

WHERE _____ flightNo = NULL

6. Names of customers who flew on the same flight as Mr. Joe

CREATE VIEW joeFlight(flightNo) AS

SELECT flightNo

FROM _____customer natural inner join onFlight

WHERE name = “Joe”

SELECT name

FROM customer, onFlight, joeFlight

WHERE _____ customer.id = onFlight.id AND

_____ onFlight.flightNo = joeFlight.flightNo

7. The number of passengers on flight “TK101” on “1/2/1999”

SELECT _____ count(id)

FROM onFlight

WHERE flightNo= “TK101” AND flightDate=“1/2/1999”

8. The most popular destination (i.e. the city which received the most number of travellers)

WITH city_tourists(toCity,HowMany) AS

SELECT toCity, count(*)

FROM onFlight natural inner join flightInfo

GROUP BY toCity

WITH mostTourist(HowMany) AS

SELECT _____ max(HowMany)

FROM _____ city_tourists

SELECT toCity

FROM _____ city_tourists, mostTourist

WHERE _____ city_tourists.HowMany = mostTourist.HowMany

9. How many passengers ever flew to Istanbul? If somebody travelled to Istanbul more than one time, only one of those visits should be counted.

SELECT _____count (distinct id)

FROM onFlight natural inner join flightInfo

WHERE to_city = “Istanbul”