Graded Problems for Module 5

The graded problems in module 5 involve SELECT statements for multiple tables and row summaries and data manipulation statements using the INSERT, UPDATE, and DELETE statements of SQL. You should execute the statements using either Oracle or PostgreSQL. The last set of problems involves rewriting SQL statements with errors and poor formatting.

Please number the SQL statements and format them neatly. For each statement, you should also take a screen snapshot demonstrating statement execution and some result rows. Indicate in the beginning of your document if you used Oracle or PostgreSQL.

SELECT Statement Problems

1. For event requests, list the event number, event date (*eventrequest.dateheld*), and count of the event plans. Only include event requests in the result if the event request has more than one related event plan with a work date in December 2022.

2. List the plan number, event number, work date, and activity of event plans meeting the following two conditions: (1) the work date is in December 2022 and (2) the event is held in the "Basketball arena". Your query must not use the facility number ("F101") of the basketball arena in the WHERE clause. Instead, you should use a condition on the *FacName* column for the value of "Basketball arena".

3. List the event number, event date, status, and estimated cost of events where there is an event plan managed by Mary Manager and the event is held in the basketball arena in the period October 1 to December 31, 2022. Your query must not use the facility number ("F101") of the basketball arena or the employee number ("E101") of "Mary Manager" in the WHERE clause. Thus, the WHERE clause should not have conditions involving the facility number or employee number compared to constant values.

4. List the plan number, line number, resource name, count of resources (*EventPlanLine.ResourceCnt*), location name, time start, and time end where the event is held at the basketball arena, the event plan has activity of activity of "Operation", and the event plan has a work date in the period October 1 to December 31, 2022. Your query must not use the facility number ("F101") of the basketball arena in the WHERE clause. Instead, you should use a condition on the *FacName* column for the value of "Basketball arena".

5. List the event plan number and sum of the resource cost for event plans. Only summarize event plans with a work date in December 2022. The resource cost is computed as the resource count (ResourceCnt) times the rate of the resource. The result should only include event plans with the sum of the resource cost greater than 50.

Database Modification Problems

1. Insert a new row into the *Facility* table with facility name "Swimming Pool".
2. Insert a new row in the *Location* table related to the *Facility* row in modification problem 1. The new row should have "Door" for the location name.
3. Insert a new row in the *Location* table related to the *Facility* row in modification problem 1. The new row should have "Locker Room" for the location name.
4. Change the location name of "Door" to "Gate" for the row inserted in modification problem 2.
5. Delete the rows inserted in modification problems 2 and 3.

SQL Statements with Errors and Poor Formatting

1. Identify errors in the following SQL statement and label errors with error type (syntax, redundancy, or semantic). To simplify your work, the statement has only one type of error. Rewrite the statement to remove the error.

```
SELECT eventrequest.eventno, dateheld, status, estcost
FROM eventrequest, employee, facility, eventplan
WHERE estaudience > 5000
  AND eventplan.empno = employee.empno
  AND eventrequest.facno = facility.facno
  AND facname = 'Football stadium'
  AND empname = 'Mary Manager'
```

2. Identify errors in the following SQL statement and label errors with error type (syntax, redundancy, or semantic). To simplify your work, the statement has only one type of error. Rewrite the statement to remove the error.

```
SELECT DISTINCT eventrequest.eventno, dateheld, status, estcost
FROM eventrequest, eventplan
WHERE estaudience > 4000
  AND eventplan.eventno = eventrequest.eventno
```

```
GROUP BY eventrequest.eventno, dateheld, status, estcost
```

3. Identify errors in the following SQL statement and label errors with error type (syntax, redundancy, or semantic). To simplify your work, the statement has only one type of error. Rewrite the statement to remove the error.

```
SELECT DISTINCT eventrequest.eventno, dateheld, status, estcost
FROM eventrequest, employee, facility, eventplan
WHERE estaudience > 5000
  AND eventplan.empno = employee.empno
  AND eventrequest.facno = facility.facno
  AND eventplan.eventno = eventrequest.eventno
  AND facname = 'Football stadium'
```

4. Identify errors in the following SQL statement and label errors with error type (syntax, redundancy, or semantic). To simplify your work, the statement has only one type of error. Rewrite the statement to remove the errors.

```
SELECT DISTINCT eventno, dateheld, status, estcost
FROM eventrequest, employee, eventplan
WHERE estaudience BETWEN 5000 AND 10000
  AND eventplan.empno = employee.empno
  AND eventrequest.eventno = eventplan.eventno
  AND empname = 'Mary Manager'
```

5. Identify areas in which the SQL statement has poor coding practices and rewrite the statement to improve the coding practices. You do not need to search for syntax errors.

```
      SELECT eventplan.planno, lineno, resname,
numberfld, timestart, timeend
    FROM eventrequest, facility, eventplan,
eventplanline, resourcetbl
     WHERE estaudience = '10000'
AND eventplan.planno =
   eventplanline.planno AND eventrequest.facno
   = facility.facno
         AND facname =
   'Basketball arena' AND
      eventplanline.resno = resourcetbl.resno
         AND eventrequest.eventno = eventplan.eventno
```