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MSIS 2503-2603
Assignment 3
Due: Feb 4, 2024

Deliverable: Prepare a Word document containing the following tasks (1, 2, 3), and the screenshots (one screenshot per task) of the query results on mySQL. Submit the word document on Camino.

Updated Tasks

Tasks:

1. **Every employee should make at least $55K. Please define the table of Employees according to this constraint.**

Inserted test data into the employee table to see what it looks like, here is the table.

```
8   /* Task 1 - salary amount and CREATE the Emp table */
9   CREATE TABLE Emp (
10      eid INTEGER PRIMARY KEY,
11      ename VARCHAR(255),
12      age INTEGER,
13      salary REAL CHECK (salary >= 55000)
14  );
15
16  -- populate the employee table --
17  INSERT INTO Emp (eid, ename, age, salary) VALUES
18  (1, 'John Watson', 45, 70000),
19  (2, 'Manny Johnson', 59, 80000),
20  (3, 'Stan Wong', 34, 55000),
21  (4, 'Veronika Sullivan', 63, 950000);
22
23  -- Show Emp table so far --
24  SELECT * FROM Emp
25  ORDER BY Salary ASC;
26
```

Result Grid | Filter Rows: | Edit: | Export/Import:

eid	ename	age	salary
3	Stan Wong	34	55000
1	John Watson	45	70000
2	Manny Johnson	59	80000
4	Veronika Sullivan	63	950000
NULL	NULL	NULL	NULL

Also inserted some test data to show the department table

```
26
27      /* Create the Dept Table */
28      CREATE TABLE Dept (
29          did INTEGER PRIMARY KEY,
30          budget REAL,
31          managerid INTEGER,
32          FOREIGN KEY (managerid) REFERENCES Emp(eid)
33          );
34
35      -- Insert some test data into DEPT to show the table
36      INSERT INTO Dept (did, budget, managerid) VALUES
37      (1, 8000, 1),
38      (2, 750000, 2);
39
40      SELECT * FROM Dept;
```

Result Grid | Filter Rows: | Edit: | Export/Im

did	budget	managerid
1	8000	1
2	750000	2
NULL	NULL	NULL

2. **All managers should be above the age of 30. Please define the table of DEPT according to this constraint.**

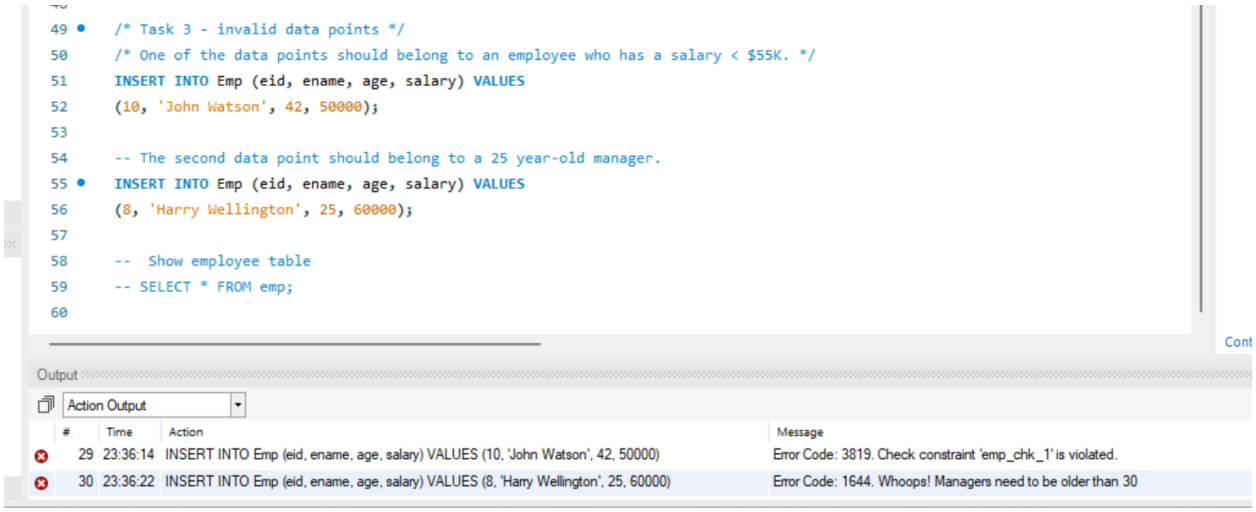
```
42      /* Task 2 - All managers have to be older than 30 - Write a Trigger.
43      Need to check if employee is a manager first AND then if they are older then 30 */
44
45      DELIMITER //
46      CREATE TRIGGER manager_age
47      BEFORE INSERT ON Emp
48      FOR EACH ROW
49      BEGIN
50          -- check if employee is a manager and older than 30
51          IF EXISTS (SELECT 1 FROM Dept WHERE managerid = NEW.eid) AND NEW.age < 30 THEN
52              SIGNAL SQLSTATE '45000'
53              SET MESSAGE_TEXT = 'Whoops! Managers need to be older than 30';
54          END IF;
55      END;
56      //
57      DELIMITER ;
58
```

Output

Action Output

#	Time	Action	Message
6	17:20:33	CREATE TABLE Dept (did INTEGER PRIMARY KEY, budget REAL, managerid INTEGER, ...	0 row(s) affecte
7	17:20:39	INSERT INTO Dept (did, budget, managerid) VALUES (1, 8000, 1), (2, 750000, 2)	2 row(s) affecte
8	17:20:39	SELECT * FROM Dept LIMIT 0, 1000	2 row(s) returne
9	17:20:53	CREATE TRIGGER manager_age BEFORE INSERT ON Emp FOR EACH ROW BEGIN -- check...	0 row(s) affecte

3. **Attempt to insert two invalid data points into the employee and Dept table. One of the data points should belong to an employee who has a salary < $55K. The second data point should belong to a 25 year-old manager.**



```
49  /* Task 3 - invalid data points */
50  /* One of the data points should belong to an employee who has a salary < $55K. */
51  INSERT INTO Emp (eid, ename, age, salary) VALUES
52  (10, 'John Watson', 42, 50000);
53
54  -- The second data point should belong to a 25 year-old manager.
55  INSERT INTO Emp (eid, ename, age, salary) VALUES
56  (8, 'Harry Wellington', 25, 60000);
57
58  --  Show employee table
59  -- SELECT * FROM emp;
60
```

Output

Action Output

#	Time	Action	Message
29	23:36:14	INSERT INTO Emp (eid, ename, age, salary) VALUES (10, 'John Watson', 42, 50000)	Error Code: 3819. Check constraint 'emp_chk_1' is violated.
30	23:36:22	INSERT INTO Emp (eid, ename, age, salary) VALUES (8, 'Harry Wellington', 25, 60000)	Error Code: 1644. Whoops! Managers need to be older than 30