COMP2014J 2019 Class Test Preparation (Week 8)

Sample Solutions

1. List the food ID and the description of all foods that were supplied by supplier 103.

   ```
   SELECT food_id, description FROM foods WHERE supplier_id='103';
   ```

2. Add your own personal details to the employees table. Put yourself in the shipping department with employee ID of 211, manager_id of 204, a hire date of today's date and whatever you like for the other fields.

   ```
   INSERT INTO employees VALUES('211','David','Lillis','SHP',DATE(NOW()),100,'2926','203')
   ```

3. List all the distinct supplier_address values in the suppliers table and sort these in descending alphabetical order.

   ```
   SELECT DISTINCT supplier_address FROM suppliers ORDER BY supplier_address DESC;
   ```

4. For each manager, list the description of the food they had for lunch each day. Sort this list by the manager's name, in ascending alphabetical order (a manager is an employee who is the manager of any other employee).

   ```
   SELECT first_name, last_name, description FROM employees JOIN lunches USING(id)
   JOIN foods USING(food_id) WHERE id IN (SELECT DISTINCT manager_id FROM employees)
   ORDER BY last_name, first_name;
   ```

5. List those foods that are not supplied by supplier 103 and do not cost more than 30.

   ```
   SELECT * FROM foods WHERE supplier_id <> '103' AND price <= 30;
   ```

6. List the first name and last names of all employees who work in either the Personnel or Shipping departments and who were hired in 2017.

   ```
   SELECT first_name, last_name FROM employees WHERE dept_code IN('SHP','PER') AND
   YEAR(hire_date)=2017;
   ```

7. Find the price of the least expensive and the most expensive foods in the foods table.

   ```
   SELECT MIN(price), MAX(price) FROM foods;
   ```

8. List the names of any suppliers who do not supply any foods.

   ```
   SELECT supplier_name FROM suppliers LEFT JOIN foods USING(supplier_id) WHERE
   food_id IS NULL;
   ```

9. For every employee in the employees table, list their full name, the name of their manager and the name of the department they work in.

   ```
   SELECT e.first_name, e.last_name, m.first_name AS manager_first, m.last_name AS
   manager_last, d.dept_name FROM employees AS e JOIN employees AS m ON e.manager_id=m.id
   JOIN departments AS d ON e.dept_code=d.dept_code;
   ```

10. Change Jim Kern's record in the employees table so that his credit limit is 95.00 and his phone extension is 0114.

    ```
    UPDATE employees SET credit_limit=95 AND phone_ext='0114' WHERE id='202';
    ```

11.
    ```
    DELETE FROM employees WHERE id='201';
    ```

    This has several effects: a) Deletes the record for Susan Brown from the employees table. b) For any employee that had manager_id of 201, this is now NULL (due to foreign key constraint ON DELETE SET NULL). c) Any lunches eaten by Susan Brown are deleted (due to foreign key constraint ON DELETE CASCADE).

12.
    ```
    SELECT employees.first_name, employees.last_name, managers.first_name, managers.last_na
    FROM employees LEFT JOIN employees AS managers ON employees.manager_id=managers.id
    WHERE employees.dept_code='ACT';
    ```

    Lists all employees in the Accounting department (ACT), with the name of their manager. For employees without managers, they will be shown with their manager's first and last name as `NULL`. The only employee to be shown is Carol Rose, who has no manager.

13.
    ```
    SELECT employees.first_name, employees.last_name, managers.first_name, managers.last_na
    FROM employees JOIN employees AS managers ON employees.manager_id=managers.id
    WHERE employees.dept_code='ACT';
    ```

    Same as Q12, except any employees who do not have a manager are not shown. Returns an empty set.

14.
    ```
    SELECT dept_code, MAX(credit_limit) FROM employees GROUP BY dept_code;
    ```

    Find the highest credit limit for an employee in each department. Values are ACT:0, EXE:30, MKT:15, SAL:25, SHP:25

15.
    ```
    UPDATE foods SET price=price * 1.1 WHERE supplier_id='103';
    ```

    Adds 10% to the price of any foods that are supplied by supplier 103.