Instructions:

Part 1: Upload the given Access database into your SQL Server account. Create all the relationships as given in the Access database. Create an ERD for the database in SQL Server and save it as A7.jpg.

Part 2: Finish the following queries and submit the queries in a file named A7.sql.

1. **Write a query to display the eight departments in the LGDEPARTMENT table.**
2. **Write a query to display the SKU (stock keeping unit), description, type, base, category, and price for all products that have a PROD_BASE of water and a PROD_CATEGORY of sealer.**
3. **Write a query to display the first name, last name, and e-mail address of employees hired from January 1, 2001, to December 31, 2010. Sort the output by last name and then by first name.**
4. **Write a query to display the first name, last name, phone number, title, and department number of employees who work in department 300 or have the title "CLERK I." Sort the output by last name and then by first name.**
5. **Write a query to display the employee number, last name, first name, salary "from" date, salary end date, and salary amount for employees 83731, 83745, and 84039. Sort the output by employee number and salary "from" date.**
6. **Write a query to display the first name, last name, street, city, state, and zip code of any customer who purchased a Foresters Best brand top coat between July 15, 2013, and July 31, 2013. If a customer purchased more than one such product, display the customer's information only once in the output. Sort the output by state, last name, and then first name.**
7. **Write a query to display the employee number, last name, e-mail address, title, and department name of each employee whose job title ends in the word "ASSOCIATE." Sort the output by department name and employee title.**
8. **Write a query to display a brand name and the number of products of that brand that are in the database. Sort the output by the brand name.**
9. **Write a query to display the number of products in each category that have a water base.**
10. **Write a query to display the number of products within each base and type combination.**
11. **Write a query to display the total inventory—that is, the sum of all products on hand for each brand ID. Sort the output by brand ID in descending order.**
12. **Write a query to display the brand ID, brand name, and average price of products of each brand. Sort the output by brand name. (Results are shown with the average price rounded to two decimal places.)**
13. **Write a query to display the department number and most recent employee hire date for each department. Sort the output by department number.**
14. **Write a query to display the employee number, first name, last name, and largest salary amount for each employee in department 200. Sort the output by largest salary in descending order.**

15. **Write a query to display the customer code, first name, last name, and sum of all invoice totals for customers with cumulative invoice totals greater than $1,500. Sort the output by the sum of invoice totals in descending order.**
16. **Write a query to display the department number, department name, department phone number, employee number, and last name of each department manager. Sort the output by department name.**
17. **Write a query to display the vendor ID, vendor name, brand name, and number of products of each brand supplied by each vendor. Sort the output by vendor name and then by brand name.**
18. **Write a query to display the employee number, last name, first name, and sum of invoice totals for all employees who completed an invoice. Sort the output by employee last name and then by first name.**
19. **Write a query to display the largest average product price of any brand.**
20. **Write a query to display the brand ID, brand name, brand type, and average price of products for the brand that has the largest average product price.**
21. **Write a query to display the manager name, department name, department phone number, employee name, customer name, invoice date, and invoice total for the department manager of the employee who made a sale to a customer whose last name is Hagan on May 18, 2011. For all person names, concatenate the first and last names into a single field.**

```
--1
SELECT  *
FROM   LGDEPARTMENT

--2
SELECT  PROD_SKU, PROD_DESCRIPT, PROD_TYPE, PROD_BASE, PROD_CATEGORY, PROD_PRICE
FROM   LGPRODUCT
WHERE PROD_BASE = 'WATER' AND PROD_CATEGORY = 'SEALER'

--3
SELECT  EMP_FNAME, EMP_LNAME, EMP_EMAIL
FROM   LGEMPLOYEE
WHERE EMP_HIREDATE >= '2001-JAN-01' AND EMP_HIREDATE <= '2010-DEC-31'

--4
SELECT  EMP_FNAME, EMP_LNAME, EMP_PHONE, EMP_TITLE, DEPT_NUM
FROM   LGEMPLOYEE
WHERE DEPT_NUM = 300 OR EMP_TITLE = 'CLERK I'
ORDER  BY EMP_LNAME, EMP_FNAME

--5
SELECT  E.EMP_NUM,  E.EMP_LNAME, E.EMP_FNAME, S.SAL_FROM, S.SAL_END, S.SAL_AMOUNT
FROM   LGEMPLOYEE E INNER JOIN LGSALARY_HISTORY S ON E.EMP_NUM = S.EMP_NUM
WHERE E.EMP_NUM IN ('83731' , '83745', '84039')
ORDER BY EMP_NUM, SAL_FROM

--6
SELECT  DISTINCT C.CUST_FNAME, C.CUST_LNAME, C.CUST_STREET, C.CUST_CITY, C.CUST_STATE,
C.CUST_ZIP
```

```
FROM   LGCUSTOMER C INNER JOIN LGINVOICE I ON C.CUST_CODE = I.CUST_CODE
                    INNER JOIN LGLINE L ON I.INV_NUM = L.INV_NUM
                    INNER JOIN LGPRODUCT P ON L.PROD_SKU = P.PROD_SKU
                    INNER JOIN LGBRAND B ON P.BRAND_ID = B.BRAND_ID
WHERE B.BRAND_NAME = 'FORESTERS BEST' AND
                    P.PROD_CATEGORY = 'TOP COAT' AND
                    I.INV_DATE BETWEEN '2013-JULY-15' AND '2013-JULY-31'
ORDER BY C.CUST_STATE, C.CUST_LNAME, C.CUST_FNAME

--7
SELECT  E.EMP_NUM, E.EMP_LNAME, E.EMP_EMAIL, E.EMP_TITLE, E.DEPT_NUM
FROM   LGEMPLOYEE E INNER JOIN LGDEPARTMENT D ON E.DEPT_NUM = D.DEPT_NUM
WHERE EMP_TITLE LIKE '%ASSOCIATE'
ORDER BY D.DEPT_NAME, E.EMP_TITLE

--8
SELECT  B.BRAND_NAME, COUNT(P.PROD_SKU) AS NUMPRODUCTS
FROM   LGBRAND B INNER JOIN LGPRODUCT P ON B.BRAND_ID = P.BRAND_ID
GROUP BY B.BRAND_NAME

--9
SELECT  PROD_CATEGORY, COUNT(PROD_SKU) AS NUM_PRODUCTS
FROM   LGPRODUCT
WHERE PROD_BASE = 'WATER'
GROUP BY PROD_CATEGORY

--10
SELECT  PROD_BASE, PROD_TYPE, COUNT(PROD_SKU) AS NUM_PRODUCTS
FROM   LGPRODUCT
```

```
GROUP BY PROD_BASE, PROD_TYPE

--11
SELECT  BRAND_ID, SUM(PROD_QOH) AS TOTAL_INVENTORY
FROM   LGPRODUCT
GROUP BY BRAND_ID
ORDER BY BRAND_ID DESC

--12
SELECT  B.BRAND_ID, B.BRAND_NAME, ROUND(AVG(PROD_PRICE),2) AS AVG_PRICE
FROM   LGBRAND B INNER JOIN LGPRODUCT P ON B.BRAND_ID = P.BRAND_ID
GROUP BY B.BRAND_ID, B.BRAND_NAME
ORDER BY B.BRAND_NAME

--13
SELECT  DEPT_NUM, MAX(EMP_HIREDATE) AS MOST_RECENT
FROM   LGEMPLOYEE
GROUP BY DEPT_NUM

--14
SELECT  E.EMP_NUM, E.EMP_FNAME, E.EMP_LNAME, MAX(S.SAL_AMOUNT) AS LARGESTSALARY
FROM   LGEMPLOYEE E INNER JOIN LGSALARY_HISTORY S ON E.EMP_NUM = S.EMP_NUM
WHERE E.DEPT_NUM = 200
GROUP BY E.EMP_NUM, E.EMP_FNAME, E.EMP_LNAME
ORDER BY LARGESTSALARY DESC

--15
SELECT  C.CUST_CODE, C.CUST_FNAME, C.CUST_LNAME, SUM(I.INV_TOTAL) AS TOTAL_INVOICES
FROM   LGCUSTOMER C INNER JOIN LGINVOICE I ON C.CUST_CODE = I.CUST_CODE
```

```
GROUP BY C.CUST_CODE, C.CUST_FNAME, C.CUST_LNAME
HAVING          SUM(I.INV_TOTAL) > 1500
ORDER BY SUM(I.INV_TOTAL) DESC

--16
SELECT  D.DEPT_NUM, D.DEPT_NAME, D.DEPT_PHONE, E.EMP_NUM, E.EMP_LNAME
FROM    LGDEPARTMENT D INNER JOIN LGEMPLOYEE E ON D.EMP_NUM = E.EMP_NUM
ORDER BY DEPT_NAME

--17
SELECT  V.VEND_ID, V.VEND_NAME, B.BRAND_NAME, COUNT(P.PROD_QOH) AS NUM_PRODUCTS
FROM    LGBRAND B INNER JOIN LGPRODUCT P ON B.BRAND_ID = P.BRAND_ID
                INNER JOIN LGSUPPLIES S ON P.PROD_SKU = S.PROD_SKU
                INNER JOIN LGVENDOR V ON S.VEND_ID = V.VEND_ID
GROUP BY V.VEND_ID, V.VEND_NAME, B.BRAND_NAME
ORDER BY V.VEND_NAME, B.BRAND_NAME

--18
SELECT  E.EMP_NUM, E.EMP_LNAME, E.EMP_FNAME, SUM(I.INV_TOTAL) AS TOTAL_INVOICES
FROM    LGEMPLOYEE E INNER JOIN LGINVOICE I ON E.EMP_NUM = I.EMPLOYEE_ID
WHERE EXISTS
                (
                SELECT  INV_TOTAL
                FROM    LGINVOICE
                WHERE INV_TOTAL > 0
                )
GROUP BY E.EMP_NUM, E.EMP_LNAME, E.EMP_FNAME
ORDER BY E.EMP_LNAME, E.EMP_FNAME
```

```
--19
SELECT  MAX(AVG_PRICE_VAR) AS LARGEST_AVERAGE
FROM   (SELECT BRAND_ID, AVG(PROD_PRICE) AS AVG_PRICE_VAR
                    FROM LGPRODUCT P
                    GROUP BY BRAND_ID)
                    AVG_PRICE

 --20
SELECT  B.BRAND_ID, B.BRAND_NAME, B.BRAND_TYPE, AVG(P.PROD_PRICE) AS AVG_PRICE
FROM   LGPRODUCT P INNER JOIN LGBRAND B ON P.BRAND_ID = B.BRAND_ID
GROUP BY B.BRAND_ID, B.BRAND_NAME, B.BRAND_TYPE
HAVING          AVG(P.PROD_PRICE) =
                    (SELECT MAX(AVG_PRICE) AS AVERAGEPRICE
                    FROM   (SELECTBRAND_ID, AVG(PROD_PRICE) AS AVG_PRICE
                                    FROM  LGPRODUCT P
                                    GROUP BY BRAND_ID
                                    )
                                    AVG_PRICE
                     )

 --21
SELECT  Y.EMP_FNAME + ' ' +  Y.EMP_LNAME AS MANAGER_NAME,
                    D.DEPT_NAME, D.DEPT_PHONE,
                    E.EMP_FNAME + ' ' + E.EMP_LNAME AS EMPLOYEE_NAME,
                    C.CUST_FNAME + ' ' + C.CUST_LNAME AS CUSTOMER_NAME,
                    I.INV_DATE, I.INV_TOTAL
```

```
FROM    LGEMPLOYEE E INNER JOIN LGDEPARTMENT D ON D.DEPT_NUM = E.DEPT_NUM
                                                INNER JOIN LGEMPLOYEE Y ON D.EMP_NUM = Y.EMP_NUM
                                                INNER JOIN LGINVOICE I ON E.EMP_NUM = I.EMPLOYEE_ID
                                                INNER JOIN       LGCUSTOMER C ON I.CUST_CODE =
C.CUST_CODE
WHERE C.CUST_LNAME = 'HAGAN' AND I.INV_DATE = '2013-MAY-18'
```