Ong Kai Xuen A22EC0100 Section 02

DML 3 part 1

Part 1: Creating Natural Joins.

1. Display all of the information about sales representatives and their addresses using a natural join.
2. Adapt the query from the previous question to only show the id, first name, last name, address line 1, address line 2, city, email and phone_number for the sales representatives.

①
```
SELECT *
FROM sales_representatives NATURAL JOIN sales_rep_addresses
```

②
```
SELECT r.first_name , r.last_name, a.address_line_1, a.address_line_2,
       a.city, r.email , r.phone_number
FROM sales_representatives r NATURAL JOIN sales_rep_addresses a;
```

Part 2: Creating Joins with the USING Clause

1. Adapt the previous query answer to use the USING clause instead of a natural join.
2. Display all of the information about items and their price history by joining the items and price_history tables.

①
```
SELECT r.first_name , r.last_name, a.address_line_1, a.address_line_2,
       a.city, r.email , r.phone_number
FROM sales_representatives r JOIN sales_rep_addresses a;
USING (id);
```

②
```
SELECT *
FROM items JOIN price_history
USING (itm_number);
```

Part 3: Creating Joins with the ON Clause

1. Use an ON clause to join the customer and sales representative table so that you display the customer number, customer fist name, customer last name, customer phone number, customer email, sales representative id, sales representative first name, sales representative last name and sales representative email. You will need to use a table alias in your answer as both tables have columns with the same name.

```
① SELECT  c.ctr_number  AS "Customer Number",
          c.first_name  AS "Customer First Name",
          c.last_name   AS "Customer Last Name",
          c.phone_number AS "Customer Phone No",
          c.email AS "Customer Email", s.id AS "SalesRep id",
          s.first_name AS "SalesRep First Name",
          s.last_name AS "SalesRep Last Name",
          s.email AS "SalesRep Email"
FROM customers c JOIN sales_representatives s
ON (c.id = s.id);
```

Part 4- Creating Three-Way Joins with the ON Clause

1. Using the answer to Task 3 add a join that will allow the team name that the customer represents to be included in the results.

```
① SELECT  c.ctr_number  AS "Customer Number",
          c.first_name  AS "Customer First Name",
          c.last_name   AS "Customer Last Name",
          c.phone_number AS "Customer Phone No",
          c.email AS "Customer Email", s.id AS "SalesRep id",
          s.first_name AS "SalesRep First Name",
          s.last_name AS "SalesRep Last Name",
          s.email AS "SalesRep Email"
FROM customers c JOIN sales_representatives s
ON (c.id = s.id)
JOIN teams t
ON (c.tem_id= t.id);
```

Part 5: Applying Additional Conditions to a Join

1. Using the answer to Task 4 add an additional condition to only show the results for the customer that has the number - c00001.

① SELECT c.ctr_number AS "Customer Number",
c.first_name AS "Customer First Name",
c.last_name AS "Customer Last Name",
c.phone_number AS "Customer Phone No",
c.email AS "Customer Email", s.id AS "SalesRep id",
s.first_name AS "SalesRep First Name",
s.last_name AS "SalesRep Last Name",
s.email AS "SalesRep Email"
FROM customers c JOIN sales_representatives s
ON (c.id = s.id)
JOIN teams t
ON (c.tem_id = t.id);
WHERE c.ctr_number = c00001;

Part 6: Retrieving Records with Nonequijoins

1. Write a query that will display name and cost of the item with the number im01101045 on the 12th of December 2016. The output of the query should look like this:

The cost of the under shirt on this day was 14.99

① SELECT 'The cost of the' || i.name || 'on this day was' || p.price
AS "output"
FROM items i JOIN price_history p
ON i.itm_number = p.itm_number
AND TO_DATE('12-Dec-2016', 'DD-Mon-YYYY') BETWEEN
p.start_date AND p.end_date
WHERE itm_number = 'im01101045';

DML 3 part 2

Part 1 : Use a Self-Join to Join a Table to Itself (S6L9 Objective 2)

1. Write a query that will display who the supervisor is for each of the sales representatives. The information should be displayed in two columns the first column will be the first name and last name of the sales representative and the second will be the first name and last name of the supervisor. The column aliases should be Rep and Supervisor.

```
① SELECT Rep.first_name || ' ' || Rep.lastName AS Rep,
         Supervisor.first_name || ' ' || Supervisor.lastName AS Supervisor
  FROM sales_representatives Rep JOIN sales_representatives Supervisor
  ON (Rep.supervisor_id = Supervisor.id);
```

Part 2 : Use OUTER joins (S6L9 Objective 3)

1. Write a query that will display all of the team and customer information even if there is no match with the table on the left (team).

```
① SELECT *
  FROM teams t LEFT OUTER JOIN customers c
  ON (t.id = c.tem_id);
```

Part 3 : Generating a Cartesian Product (S6L9 Objective 4)

1. Create a Cartesian product between the customer and sales representative tables.

```
① SELECT *
  FROM customers
  CROSS JOIN sales_representatives;
```