CHEAH SEONG MEN A23EC0041

SQL 4 - PART 1

Part 1 : Creating Natural Joins

1. SELECT * FROM SALES_REPRESENTATIVES
   NATURAL joins sales_rep_address;

2. SELECT id, first_name, last_name, address_line_1, address_line_2,
        city, email, phone_number
   FROM sales_representatives NATURAL JOIN sales_rep_address;

Part 2 : Creating joins with the USING clause

1. SELECT id, first_name, last_name, address_line_1, address_line_2,
        city, email, phone_number
   FROM sales_representative JOIN sales_rep_address USING (id);

2. SELECT * FROM items JOIN price_history ON items.itm_number =
        price_history.itm_number;

Part 3 - Creating JOINS with the ON Clause

1. SELECT c.ctr_number, c.first_name "Customer First Name",
        c.last_name "Customer Last Name", c.phone_number
        "Customer Phone Number", c.email "Customer Email",
        s.id "Sales Representative 10", s.first_name
        "Sales Representative First Name", s.last_name
        "Sales Representative Last Name", s.email
        "Sales Representative Email"
   FROM customer c JOIN sales_representative s ON c.sre_id = s.id;

Part 4 - Creating three-way joins with the ON Clause

1. SELECT c.ctr_number, c.first_name "Customer First Name",
        c.last_name "Customer Last Name", c.phone_number
        "Customer Phone Number", c.email "Customer Email", s.id
        "Sales Representative 10", s.first_name "Sales Representative First Name",
        s.last "Sales Representative Last Name", s.email "Sales Representative email",
        t.name "Team Name"

good idea!

FROM customer c JOIN sales_representative s
ON c.sreid = s.id team t ON c.teamid = t.id ;


PART 5 - Applying Additional conditions to a join
1. SELECT c.ctr_number, c.first_name "Customer First Name",
        c.last_name "Customer Last Name", c.phone_number
        "Customer Phone Number", c.email "Customer Email", s.id
        "Sales Representative ID", s.first_name "Sales Representative
        First Name", s.last_name "Sales Representative Last Name",
        s.email "Sales Representative Email", t.name "TBAM Name",
FROM customer c JOIN sales_representative ON c.sre_id = s.id ●
JOIN teams t ON c.team_id = t.id :
WHERE c.ctr_number = 'c0001';


Part 6 - Retrieving record with nonequijoins
1. SELECT 'The cost of the' || i.name || 'on this day was' || ph.price
AS output from item ; LEFT JOIN price_history ph ON
i.itm_number WHERE i.itm_number = 'imoti01045' AND
TO_DATE '12 - Dec - 2016', 'DD-Mon-YYYY') BETWEEN ph.start_date
AND NULL ph.end_date, TO_DATE ('31-Dec-9999', Db-Mon-YYYY')


SQL 4 - PART 2
Part 1 - Use a self-join to join a table to itself
1. SELECT s1.first_name || ' ' || s1.last_name AS Rep, s2.first_name ||
'' || s2.last_name AS supervisor FROM sales_representative s1 JOIN
sales_representative s2 ON s1.supervisor = s2.id ;


Part 2 - use outer joins
1. SELECT t*, c* FROM LEFT JOIN customers c ON t.id = c.team_id,


Part 3 - Generating a Cartesian Product
1. SELECT * FROM customer, sales_representative ;

## Part 1

### Part 1: Creating Natural Joins

1

| ID | EMAIL | FIRST_NAME | LAST_NAME | PHONE_NUMBER | COMMISSION_RATE | SUPERVISOR_ID | ADDRESS_LINE_1 | ADDRESS_LINE_2 | CITY | ZIP_CODE |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 sr01 | chray@obl.com | Charles | Raymond | 0134598761 | 10 | sr01 | 12 Cherry Lane | Denton | Detroit | DT48211 |
| 2 sr02 | vwright@obl.com | Victoria | Wright | 0134598762 | 5 | sr01 | 87 Blossom Hill | Uptown | Detroit | DT52314 |
| 3 sr03 | bspeed@obl.com | Barry | Speed | 0134598763 | 5 | sr01 | 12 Junction Row | Skinflats | Detroit | DT52564 |

2

| ID | FIRST_NAME | LAST_NAME | ADDRESS_LINE_1 | ADDRESS_LINE_2 | CITY | EMAIL | PHONE_NUMBER |
|---|---|---|---|---|---|---|---|
| 1 sr01 | Charles | Raymond | 12 Cherry Lane | Denton | Detroit | chray@obl.com | 0134598761 |
| 2 sr02 | Victoria | Wright | 87 Blossom Hill | Uptown | Detroit | vwright@obl.com | 0134598762 |
| 3 sr03 | Barry | Speed | 12 Junction Row | Skinflats | Detroit | bspeed@obl.com | 0134598763 |

### Part 2: Creating Joins with the USING Clause

1

| ID | FIRST_NAME | LAST_NAME | ADDRESS_LINE_1 | ADDRESS_LINE_2 | CITY | EMAIL | PHONE_NUMBER |
|---|---|---|---|---|---|---|---|
| 1 sr01 | Charles | Raymond | 12 Cherry Lane | Denton | Detroit | chray@obl.com | 0134598761 |
| 2 sr02 | Victoria | Wright | 87 Blossom Hill | Uptown | Detroit | vwright@obl.com | 0134598762 |
| 3 sr03 | Barry | Speed | 12 Junction Row | Skinflats | Detroit | bspeed@obl.com | 0134598763 |

2

| ITM_NUMBER | NAME | DESCRIPTION | CATEGORY | COLOR | Size | ILT_ID | START_DATE | START_TIME | PRICE | END_DATE | END_TIME | ITM_NUMBER_1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 im01101044 | gloves | catcher mitt | clothing | brown | m | i1010230124 | 17-JUN-17 | 17-JUN-16 | 4.99 | (null) | (null) | im01101044 |
| 2 im01101045 | under shirt | top worn under the game top | clothing | white | s | i1010230125 | 25-NOV-16 | 25-NOV-16 | 14.99 | 25-JAN-17 | 25-JAN-17 | im01101045 |
| 3 im01101045 | under shirt | top worn under the game top | clothing | white | s | i1010230125 | 25-JAN-17 | 25-JAN-17 | 8.99 | 25-JAN-17 | 25-JAN-17 | im01101045 |
| 4 im01101045 | under shirt | top worn under the game top | clothing | white | s | i1010230125 | 26-JAN-17 | 26-JAN-17 | 15.99 | (null) | (null) | im01101045 |
| 5 im01101046 | socks | team socks with emblem | clothing | range | l | i1010230126 | 12-FEB-17 | 12-FEB-17 | 7.99 | (null) | (null) | im01101046 |
| 6 im01101047 | game top | team shirt with emblem | clothing | range | m | i1010230127 | 25-APR-17 | 25-APR-17 | 24.99 | (null) | (null) | im01101047 |
| 7 im01101048 | premium bat | high quaity basball bat | equipment | (null) | (null) | i1010230128 | 31-MAY-17 | 31-MAY-17 | 149 | (null) | (null) | im01101048 |
| 8 im01101048 | premium bat | high quaity basball bat | equipment | (null) | (null) | i1010230128 | 10-NOV-23 | 10-NOV-23 | 99.99 | (null) | (null) | im01101048 |

### Part 3: Creating Joins with the ON Clause

1

| CTR_NUMBER | Customer First Name | Customer Last Name | Customer Phone Number | Customer Email | Sales Representative ID | Sales Representative First Name | Sales Representative Last Name | Sales |
|---|---|---|---|---|---|---|---|---|
| 1 c00001 | Robert | Thornberry | 01234567898 | bob.thornberry@heatmail.com | sr01 | Charles | Raymond | chray |
| 2 c00101 | John | Doe | 03216547808 | unknown@here.com | sr01 | Charles | Raymond | chray |
| 3 c01986 | Maria | Galant | 01442736589 | marga187@delphiview.com | sr03 | Barry | Speed | bspee |

| Sales Representative Email |
|---|
| chray@obl.com |
| chray@obl.com |
| bspeed@obl.com |

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

1

| me | Customer Last Name | Customer Phone Number | Customer Email | Sales Representative ID | Sales Representative First Name | Sales Representative Last Name | Sales Representative Email | Team Name |
|----|--------------------|------------------------|----------------|--------------------------|----------------------------------|---------------------------------|-----------------------------|-----------|
| 1 | Thornberry | 01234567898 | bob.thornberry@heatmail.com | sr01 | Charles | Raymond | chray@obl.com | Rockets |
| 2 | Doe | 03216547808 | unknown@here.com | sr01 | Charles | Raymond | chray@obl.com | Celtics |
| 3 | Galant | 01442736589 | marga187@delphiview.com | sr03 | Barry | Speed | bspeed@obl.com | Rovers |

## Part 5: Applying Additional Conditions to a Join

1

| | CTR_NUMBER | Customer First Name | Customer Last Name | Customer Phone Number | Customer Email | Sales Representative ID | Sales Representative First Name | Sales Representative Last Name | Sales |
|---|-----------|----------------------|---------------------|------------------------|----------------|--------------------------|----------------------------------|---------------------------------|-------|
| 1 | c00001 | Robert | Thornberry | 01234567898 | bob.thornberry@heatmail.com | sr01 | Charles | Raymond | chray |

| Sales Representative ID | Sales Representative First Name | Sales Representative Last Name | Sales Representative Email | Team Name |
|--------------------------|----------------------------------|---------------------------------|-----------------------------|-----------|
| sr01 | Charles | Raymond | chray@obl.com | Rockets |

## Part 6: Retrieving Records with Nonequijoins

1

| | OUTPUT |
|---|--------|
| 1 | The cost of the under shirt on this day was 14.99 |

## Part 2

### Part 1 : Use a Self-Join to Join a Table to Itself

1

| | REP | SUPERVISOR |
|---|---|---|
| 1 | Charles Raymond | Charles Raymond |
| 2 | Victoria Wright | Charles Raymond |
| 3 | Barry Speed | Charles Raymond |

### Part 2 : Use OUTER joins

1

| | NAME | NUMBER_OF_PLAYERS | DISCOUNT | CTR_NUMBER | EMAIL | FIRST_NAME | LAST_NAME | PHONE_NUMBER | CURRENT_BALANCE |
|---|---|---|---|---|---|---|---|---|---|
| 1 t001 | Rockets | 25 | 10 | c00001 | bob.thornberry@heatmail.com | Robert | Thornberry | 01234567898 | 15 |
| 2 t002 | Celtics | 42 | 20 | c00101 | unknown@here.com | John | Doe | 03216547808 | 987. |
| 3 t003 | Rovers | 8 | (null) | c01986 | marga187@delphiview.com | Maria | Galant | 01442736589 | 125.6 |
| 4 t004 | Jets | 10 | 5 | (null) | (null) | (null) | (null) | (null) | (null |

| CURRENT_BALANCE | SRE_ID | TEM_ID | LOYALTY_CARD_NUMBER |
|---|---|---|---|
| 150 | sr01 | t001 | (null) |
| 987.5 | sr01 | t002 | (null) |
| 125.65 | sr03 | t003 | (null) |
| (null) | (null) | (null) | (null) |

### Part 3 : Generating a Cartesian Product

| | CTR_NUMBER | EMAIL | FIRST_NAME | LAST_NAME | PHONE_NUMBER | CURRENT_BALANCE | SRE_ID | TEM_ID | LOYALTY_CARD_NUMBER | ID | EMAIL_1 | FIRST_NAME_1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | c00001 | bob.thornberry@heatmail.com | Robert | Thornberry | 01234567898 | 150 | sr01 | t001 | (null) | sr01 | chray@ob1.com | Charles |
| 2 | c00012 | Jjones@freemail.com | Jennifer | Jones | 01505214598 | 0 (null) | (null) | 1c1015 | | sr01 | chray@ob1.com | Charles |
| 3 | c00101 | unknown@here.com | John | Doe | 03216547808 | 987.5 | sr01 | t002 | (null) | sr01 | chray@ob1.com | Charles |
| 4 | c00103 | MurciaA@globaltech.com | Andrew | Murcia | 07715246890 | 85 (null) | (null) | 1c2341 | | sr01 | chray@ob1.com | Charles |
| 5 | c01986 | marga187@delphiview.com | Maria | Galant | 01442736589 | 125.65 | sr03 | t003 | (null) | sr01 | chray@ob1.com | Charles |
| 6 | c02001 | brianrog@hootech.com | Brian | Rogers | 01654564898 | 50 (null) | (null) | 1c4587 | | sr01 | chray@ob1.com | Charles |
| 7 | c00001 | bob.thornberry@heatmail.com | Robert | Thornberry | 01234567898 | 150 | sr01 | t001 | (null) | sr02 | vwright@ob1.com | Victoria |
| 8 | c00012 | Jjones@freemail.com | Jennifer | Jones | 01505214598 | 0 (null) | (null) | 1c1015 | | sr02 | vwright@ob1.com | Victoria |
| 9 | c00101 | unknown@here.com | John | Doe | 03216547808 | 987.5 | sr01 | t002 | (null) | sr02 | vwright@ob1.com | Victoria |
| 10 | c00103 | MurciaA@globaltech.com | Andrew | Murcia | 07715246890 | 85 (null) | (null) | 1c2341 | | sr02 | vwright@ob1.com | Victoria |
| 11 | c01986 | marga187@delphiview.com | Maria | Galant | 01442736589 | 125.65 | sr03 | t003 | (null) | sr02 | vwright@ob1.com | Victoria |
| 12 | c02001 | brianrog@hootech.com | Brian | Rogers | 01654564898 | 50 (null) | (null) | 1c4587 | | sr02 | vwright@ob1.com | Victoria |
| 13 | c00001 | bob.thornberry@heatmail.com | Robert | Thornberry | 01234567898 | 150 | sr01 | t001 | (null) | sr03 | bspeed@ob1.com | Barry |
| 14 | c00012 | Jjones@freemail.com | Jennifer | Jones | 01505214598 | 0 (null) | (null) | 1c1015 | | sr03 | bspeed@ob1.com | Barry |
| 15 | c00101 | unknown@here.com | John | Doe | 03216547808 | 987.5 | sr01 | t002 | (null) | sr03 | bspeed@ob1.com | Barry |
| 16 | c00103 | MurciaA@globaltech.com | Andrew | Murcia | 07715246890 | 85 (null) | (null) | 1c2341 | | sr03 | bspeed@ob1.com | Barry |
| 17 | c01986 | marga187@delphiview.com | Maria | Galant | 01442736589 | 125.65 | sr03 | t003 | (null) | sr03 | bspeed@ob1.com | Barry |
| 18 | c02001 | brianrog@hootech.com | Brian | Rogers | 01654564898 | 50 (null) | (null) | 1c4587 | | sr03 | bspeed@ob1.com | Barry |

| LAST_NAME_1 | PHONE_NUMBER_1 | COMMISSION_RATE | SUPERVISOR_ID |
|---|---|---|---|
| Raymond | 0134598761 | 10 | sr01 |
| Raymond | 0134598761 | 10 | sr01 |
| Raymond | 0134598761 | 10 | sr01 |
| Raymond | 0134598761 | 10 | sr01 |
| Raymond | 0134598761 | 10 | sr01 |
| Raymond | 0134598761 | 10 | sr01 |
| Wright | 0134598762 | 5 | sr01 |
| Wright | 0134598762 | 5 | sr01 |
| Wright | 0134598762 | 5 | sr01 |
| Wright | 0134598762 | 5 | sr01 |
| Wright | 0134598762 | 5 | sr01 |
| Wright | 0134598762 | 5 | sr01 |
| Speed | 0134598763 | 5 | sr01 |
| Speed | 0134598763 | 5 | sr01 |
| Speed | 0134598763 | 5 | sr01 |
| Speed | 0134598763 | 5 | sr01 |
| Speed | 0134598763 | 5 | sr01 |
| Speed | 0134598763 | 5 | sr01 |