

Lab 4 Tony Shun Wei A22BC0110 Part 1

Part 1: creating Natural joins.

1. SELECT * FROM sales_representatives
NATURAL JOIN sales_rep_addresses;

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

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_representatives JOIN sales_rep_addresses USING (id);

2. SELECT * FROM items JOIN price_history ON items.item_number = price_history.item_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 ID",
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 ID",
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
JOIN team t ON c.team_id = 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 "TEAM Name" FROM customer c  
JOIN sales-representatives s ON c.sre_id = s.id JOIN teams t ON c.tem_id = t.id  
WHERE c.ctr-number = '000001';
```

Part 6: Retrieving Record with Nonequijoins

```
1. SELECT 'The cost of the ' || i.name || ' on this day was ' || ph.price AS output FROM item i  
LEFT JOIN price-history ph ON i.item-number = ph.item-number WHERE i.item-number  
= 'im0101045' AND TO-DATE('12-Dec-2016', 'DD-Mon-YYYY') BETWEEN ph.start-date  
AND NVL(ph.end-date, TO-DATE('31-Dec-9999', 'DD-Mon-YYYY'));
```

Part 7

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_id = s2.id;
```

Part 2: Use outer joins

```
1. SELECT t.*, c.* FROM LEFT JOIN customers c ON t.id = c.tem_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	11010230124	17-JUN-17	17-JUN-16	4.99 (null)	(null)	im01101044
2	im01101045	under shirt	top worn under the game	top clothing	white	s	11010230125	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	11010230125	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	11010230125	26-JAN-17	26-JAN-17	15.99 (null)	(null)	im01101045
5	im01101046	socks	team socks with emblem	clothing	range	l	11010230126	12-FEB-17	12-FEB-17	7.99 (null)	(null)	im01101046
6	im01101047	game top	team shirt with emblem	clothing	range	m	11010230127	25-APR-17	25-APR-17	24.99 (null)	(null)	im01101047
7	im01101048	premium bat	high quaity baseball bat	equipment	(null)	(null)	11010230128	31-MAY-17	31-MAY-17	149 (null)	(null)	im01101048
8	im01101048	premium bat	high quaity baseball bat	equipment	(null)	(null)	11010230128	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 Representative Email	
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	margal87@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

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SQL All Rows Fetched: 3 in 0.01 seconds								
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	margal87@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 Representative Email	Team Name
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	987.5
3	t003 Rovers	8	(null)	c01986	margal87@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@obl.com	Charles
2	c00012	Jjones@freemail.com	Jennifer	Jones	01505214598	0	(null)	(null)	1c1015	sr01	chray@obl.com	Charles
3	c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	(null)	sr01	chray@obl.com	Charles
4	c00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	(null)	(null)	1c2341	sr01	chray@obl.com	Charles
5	c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	(null)	sr01	chray@obl.com	Charles
6	c02001	brianrog@hootech.com	Brian	Rogers	01654564898	50	(null)	(null)	1c4587	sr01	chray@obl.com	Charles
7	c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	t001	(null)	sr02	vwright@obl.com	Victoria
8	c00012	Jjones@freemail.com	Jennifer	Jones	01505214598	0	(null)	(null)	1c1015	sr02	vwright@obl.com	Victoria
9	c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	(null)	sr02	vwright@obl.com	Victoria
10	c00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	(null)	(null)	1c2341	sr02	vwright@obl.com	Victoria
11	c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	(null)	sr02	vwright@obl.com	Victoria
12	c02001	brianrog@hootech.com	Brian	Rogers	01654564898	50	(null)	(null)	1c4587	sr02	vwright@obl.com	Victoria
13	c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	t001	(null)	sr03	bspeed@obl.com	Barry
14	c00012	Jjones@freemail.com	Jennifer	Jones	01505214598	0	(null)	(null)	1c1015	sr03	bspeed@obl.com	Barry
15	c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	t002	(null)	sr03	bspeed@obl.com	Barry
16	c00103	MurciaA@globaltech.com	Andrew	Murcia	07715246890	85	(null)	(null)	1c2341	sr03	bspeed@obl.com	Barry
17	c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	t003	(null)	sr03	bspeed@obl.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

18 c02001	brianrog@hootech.com	Brian	Rogers	01654564898	50 (null)	(null)	lc4587	sr03 bspeed@ob1.com	Barry
Speed	0134598763				5	sr01			