Course :   CSE 2004 – Database Management Systems
Lab slot :   L55+ L56
Faculty :   Dr. B Saleena
Ex. No: 4   **Date: 4/8/17**

SQL - JOINS

Table Books : *(Table forwarded from the last exercise)*

ISBN TITLE	PRICE	QUANTITY	TOTAL_COST
42364 The Underground Railroad	1727.6	1816	3501248
36118 The Vegetarian	1343.6	1320	2038080
72116 War and Turpentine	1724.6	1190	2290750
47901 Dark Monkey	1919.6	1060	2247200
18141 The North Water	1599.6	1211	2179800
85085 The Return: Father and Sons	2174.6	1816	4313000
40458 Anatomy of a Disappearance	1449.6	1206	1989900
55161 Sag Harbour	1279.6	1032	1527360
93282 The Intuitionist	1724.6	1103	2123275
46729 Human Acts	1598.6	1460	2626540
34120 There Comes a Boy	1199.6	1682	2354800

Table Authors : *(Table forwarded from the last exercise)*

AUTHOR_ID	EMAIL_ID	AUTHOR_NAME
3855	colson.whitehead@bookworld.com	Colson Whitehead
1101	han.kang@bookworld.com	Han Kang
1018	stefan.hertmans@bookworld.com	Stefan Hertmans
3079	jane.mayer@bookworld.com	Jane Mayer
2501	ian.mcguire@bookworld.com	Ian McGuire
8129	hisham.matar@bookworld.com	Hisham Matar

Table Books_Authors : *(Table forwarded from the last exercise)*

ISBN_NUM	AUTH_ID
42364	3855
36118	1101
72116	1018
47901	3079
18141	2501
85085	8129
40458	8129
55161	3855
93282	3855
46729	1101
34120	1101

1. **Select all tuples from Books and Books_Authors [Implicit Inner Join]**

   SQL> SELECT * FROM Books b, Books_Authors ba WHERE ba.ISBN_Num = b.ISBN;

ISBN	TITLE	PRICE	QUANTITY	TOTAL_COST	ISBN_NUM	AUTH_ID
42364	The Underground Railroad	1928	1019	1964632	42364	3855
36118	The Vegetarian	1544	1320	2038080	36118	1101
72116	War and Turpentine	1925	1190	2290750	72116	1018
47901	Dark Monkey	2120	1060	2247200	47901	3079
18141	The North Water	1800	1211	2179800	18141	2501
85085	The Return: Father and Sons	2575	1816	4676200	85085	8129
40458	Anatomy of a Disappearance	1650	1206	1989900	40458	8129
55161	Sag Harbour	1480	1032	1527360	55161	3855
93282	The Intuitionist	1925	1103	2123275	93282	3855
46729	Human Acts	1799	1460	2626540	46729	1101
34120	There Comes a Boy	1400	1682	2354800	34120	1101

11 rows selected.

2. **Select all tuples from Authors and Books_Authors [Explicit Inner Join]**

SQL> SELECT * FROM Authors a INNER JOIN Books_Authors ba ON ba.Auth_ID = a.Author_ID;

AUTHOR_ID	EMAIL_ID	AUTHOR_NAME	ISBN	AUTH_ID
3855	colson.whitehead@bookworld.com	Colson Whitehead	42364	3855
1101	han.kang@bookworld.com	Han Kang	36118	1101
1018	stefan.hertmans@bookworld.com	Stefan Hertmans	72116	1018
3079	jane.mayer@bookworld.com	Jane Mayer	47901	3079
2501	ian.mcguire@bookworld.com	Ian McGuire	18141	2501
8129	hisham.matar@bookworld.com	Hisham Matar	85085	8129
8129	hisham.matar@bookworld.com	Hisham Matar	40458	8129
3855	colson.whitehead@bookworld.com	Colson Whitehead	55161	3855
3855	colson.whitehead@bookworld.com	Colson Whitehead	93282	3855
1101	han.kang@bookworld.com	Han Kang	46729	1101
1101	han.kang@bookworld.com	Han Kang	34120	1101

11 rows selected.

3. **List the Author_Id, author name along with ISBN number of the authored book [Equi Join]**

SQL> SELECT ba.Auth_ID, a.Author_Name, ba.ISBN_Num FROM Authors a JOIN Books_Authors ba ON a.Author_ID = ba.Auth_ID;

AUTH_ID	AUTHOR_NAME	ISBN_NUM
3855	Colson Whitehead	42364
1101	Han Kang	36118
1018	Stefan Hertmans	72116
3079	Jane Mayer	47901
2501	Ian McGuire	18141
8129	Hisham Matar	85085
8129	Hisham Matar	40458
3855	Colson Whitehead	55161
3855	Colson Whitehead	93282
1101	Han Kang	46729
1101	Han Kang	34120

11 rows selected.

4. **List the ISBN number, name of the book along with the author ID [Natural Join]**

SQL> SELECT ISBN, Title, Auth_ID FROM Books b NATURAL JOIN Books_Authors ba;

ISBN	TITLE	AUTH_ID
42364	The Underground Railroad	3855
36118	The Vegetarian	1101
72116	War and Turpentine	1018
47901	Dark Monkey	3079
18141	The North Water	2501
85085	The Return: Father and Sons	8129
40458	Anatomy of a Disappearance	8129
55161	Sag Harbour	3855
93282	The Intuitionist	3855
46729	Human Acts	1101
34120	There Comes a Boy	1101

11 rows selected.

5. **Select all tuples from authors and books_authors [Full Outer Join]**

SQL> SELECT * FROM Authors a FULL OUTER JOIN Books_Authors ba ON a.Author_ID = ba.Auth_ID;

AUTHOR_ID	EMAIL_ID	AUTHOR_NAME	ISBN	AUTH_ID
3855	colson.whitehead@bookworld.com	Colson Whitehead	42364	3855
1101	han.kang@bookworld.com	Han Kang	36118	1101
1018	stefan.hertmans@bookworld.com	Stefan Hertmans	72116	1018
3079	jane.mayer@bookworld.com	Jane Mayer	47901	3079
2501	ian.mcguire@bookworld.com	Ian McGuire	18141	2501
8129	hisham.matar@bookworld.com	Hisham Matar	85085	8129
8129	hisham.matar@bookworld.com	Hisham Matar	40458	8129
3855	colson.whitehead@bookworld.com	Colson Whitehead	55161	3855
3855	colson.whitehead@bookworld.com	Colson Whitehead	93282	3855
1101	han.kang@bookworld.com	Han Kang	46729	1101
1101	han.kang@bookworld.com	Han Kang	34120	1101

11 rows selected.

6. **List the Author name, name of the book and price of the book**

SQL> SELECT Author_name, Title, Price FROM Books b, Authors a, Books_Authors ba WHERE b.ISBN = ba.ISBN AND ba.Auth_ID = a.Author_ID;

AUTHOR_NAME	TITLE	PRICE
Colson Whitehead	The Underground Railroad	1928
Han Kang	The Vegetarian	1544
Stefan Hertmans	War and Turpentine	1925
Jane Mayer	Dark Monkey	2120
Ian McGuire	The North Water	1800
Hisham Matar	The Return: Father and Sons	2575
Hisham Matar	Anatomy of a Disappearance	1650
Colson Whitehead	Sag Harbour	1480
Colson Whitehead	The Intuitionist	1925
Han Kang	Human Acts	1799
Han Kang	There Comes a Boy	1400

11 rows selected.

6. **List the Author name, name of the book and price of the book**

7. **List the author details whose book price is greater than 1800.**

SQL> SELECT a.Author_ID, a.Email_Id, a.Author_name, b.Price FROM Books b, Authors a, Books_Authors ba WHERE b.Price >= 1800 AND ba.Auth_ID = a.Author_ID AND ba.ISBN = b.ISBN;

AUTHOR_ID	EMAIL_ID	AUTHOR_NAME	PRICE
3855	colson.whitehead@bookworld.com	Colson Whitehead	1925
3855	colson.whitehead@bookworld.com	Colson Whitehead	1928
1018	stefan.hertmans@bookworld.com	Stefan Hertmans	1925
3079	jane.mayer@bookworld.com	Jane Mayer	2120
2501	ian.mcguire@bookworld.com	Ian McGuire	1800
8129	hisham.matar@bookworld.com	Hisham Matar	2575

6 rows selected.

8. **List the author id, name of the book whose qty of book is less than 1200.**

SQL> SELECT a.Author_Id, b.Title,b.Quantity FROM Books b, Authors a, Books_Authors ba WHERE b.Quantity <= 1200 AND ba.Auth_ID = a.Author_ID AND ba.ISBN = b.ISBN;

AUTHOR_ID	TITLE	QUANTITY
3855	The Underground Railroad	1019
1018	War and Turpentine	1190
3079	Dark Monkey	1060
3855	Sag Harbour	1032
3855	The Intuitionist	1103

6 rows selected.