Task - 5

Date: 18-08-25

Aim: To implement and demostrate different types of joins (simple join, self join, Inner join, left join, Right join, Full join, Multi join, and cross join) on the Sailors - Boats - Reserves database

SQL Commands

Create tables CREATE Table sailors (sid INT NOT Null PRIMARY KEY, Sname varchar(32), rating INT, age REAL);

CREAT TABLE Boats (bid NOT NULL Primary key, bname varchar(32), colour varchar(20);

CREAT TABLE Reserves (Sid INT Not Null, bid INT Not Null, day Date Not Null, Primary key (sid, bid, day), Foreign key (sid) REFENCES sailors (sid, Foreign key (bid) REFERENCES Boats(bid);

Inseet Data

Sailors Inseet INTo sailors values (22, 'Austin', 7, 45.0), (29, 'Brutus'; 1, 33), (31, 'Lubber', 8, 55.5), (32, 'Andy', 8, 25.5), (58, 'Rusty', 10, 35), (64, 'Horatio', 7, 25), (71, 'Zorba', 10, 16), (74, 'Horatio', 9, 40), (85, 'Art', 3, 25.5) (9.5, 'Bob', 3, 63.5);

Object Type TABLE Object SAILORS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SAILORS	SID	NUMBER	22	-	0	1	-	-	-
	SNAME	VARCHAR2	32	-	-	-	✓	-	-
	RATING	NUMBER	22	-	0	-	✓	-	-
	AGE	FLOAT	63	63	-	-	✓	-	-

1 - 4

Object Type TABLE Object BOATS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
BOATS	BID	NUMBER	22	-	0	1	-	-	-
	BNAME	VARCHAR2	32	-	-	-	✓	-	-
	COLOR	VARCHAR2	32	-	-	-	✓	-	-

1 - 3

Results Explain Describe Saved SQL History

Object Type TABLE Object RESERVES

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
RESERVES	SID	NUMBER	22	-	0	1	-	-	-
								-	-
								-	-

1 - 3

Boats

bid	bname	color
101	Interlake	blue
102	Interlake	red
103	Clipper	green
104	marine	red

Reserves

sid	bid	day
22	101	1998-10-10
22	102	1998-10-10
22	103	1998-10-08
22	104	1998-10-07
22	102	1998-11-10
31	103	1998-11-06
31	104	1998-11-12
64	101	1998-09-05
64	102	1998-09-08
74	103	1998-09-08

Sailors

sid	sname	rating	age
22	Dustin	7	45
31	Lubber	8	55.5
74	Horatio	9	40

Queries

Simple / Equi-join

SELECT S * From Sailors S INNER JOIN Reserves R ON S.Sid = R.Sid WHERE R.bib = 103;

Non-Equi-join

SELECT S.* From Sailor S INNER JOIN Reserves R ON S.Sid = R.Sid where R.bib <>103;

Self Join

SELECT X.Sname As Sailor1, Y.Sname As Sailor2, X.age As Age1, Y.age As Age2 FROM Sailors X join Sailors Y ON X.Sid <> Y.Sid AND X.age > Y.age;

Inner join (Two tables)

Select S.Sname, R.bid from Sailors S INNER join Reserves R ON S.Sid - R.Sid;

Inner join (Three Tables)

Select B.bname From Sailors S Inner join Reserves R ON S.Sid - R.Sid INNER join Boats B ON R.bid = B.bid WHERE S.Sname = 'Lubber';

Left outter join

Select S.Sname, R.bid From sailors S LEFT join Reserves R ON S.Sid = R.Sid;

Right outter join

Select S.Sname, R.bib From sailor S Right join R ON S.Sid = R.Sid

Full outer join

Select S.Sname; R.bid, B.Colour From Sailor S Full Outer join Reserves R ON S.Sid = R.Sid Left join Boats B on bid = B.bid;

sid	sname	rating	age
22	Dustin	7	45
22	Dustin	7	45
22	Dustin	7	45
22	Dustin	7	45
22	Dustin	8	55.5
31	Lubber	7	35
64	Horatio	7	35
64	Horatio		

Sailor1	Sailor2	Age1	Age2
Dustin	Brutus	45	33
Dustin	Andy	45	25.5
Dustin	Rusty	45	35
Dustin	Horatio	45	35
Dustin	Zorba	45	16
Dustin	Horatio	45	40
Dustin	Art	45	25.5
Brutus	Andy	33	25.5
Brutus	Zorba	33	16
Brutus	Art	33	25.5
Lubber	Dustin	55.5	45
Lubber	Brutus	55.5	33
Lubber	Andy	55.5	25.5
Lubber	Rusty	55.5	35
Lubber	Horatio	55.5	35
Lubber	Zorba	55.5	16
Lubber	Horatio	55.5	40
Lubber	Art	55.5	25.5
Andy	Zorba	25.5	16
Rusty	Brutus	35	33
Rusty	Andy	35	25.5
Rusty	Zorba	35	16
Rusty	Art	35	25.5
Horatio	Brutus	35	33
Horatio	Andy	35	25.5
Horatio	Zorba	35	16

Horatio	Brutus	40	33
Horatio	Andy	40	25.5
Horatio	Rusty	40	35
Horatio	Horatio	40	35
Horatio	Zorba	40	16
Horatio	Art	40	25.5
Art	Zorba	25.5	16
Bob	Dustin	63.5	45
Bob	Brutus	63.5	33
Bob	Lubber	63.5	55.5
Bob	Andy	63.5	25.5
Bob	Rusty	63.5	35
Bob	Horatio	63.5	35
Bob	Zorba	63.5	16
Bob	Horatio	63.5	40
Bob	Art	63.5	25.5

sname	bid
Dustin	101
Dustin	102
Dustin	103
Dustin	104
Dustin	102

sname	bid
Dustin	101
Dustin	102
Dustin	102
Dustin	103
Dustin	104
Brutus	

sname	bid
Dustin	101
Dustin	102
Dustin	102
Dustin	103
Dustin	104
Brutus	

Lubber	103
Lubber	104
Andy	
Rusty	
Horatio	101
Horatio	102
Zorba	
Horatio	103

Art	
Bob	

Cross join

```
SELECT S.Sname , B.bname FROM sailors S CROSS join
Boats B ;
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VEL TECH - CSE	
EX NO.	5
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	20
TOTAL (20)	

Result : The ~~different~~ types of joins was implemented successfully