

CSE-2007 LAB Assignment

Academic year: 2020-2021

Semester: Win

Faculty Name: Ms. P Dhanavanthini

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Student name: M.Taran

Reg. no.: 19BCE7346

DBMS Lab Sheet – SQL Joins

1. Consider the following **relations**

Tour guides

employee_number	employee_name	hourly_rate	months_employed
978	Siyabonge Nomvete	30	6
942	Jean-Marc Ithier	35	12
923	Tyrone Arendse	32	6
982	Mathew Booth	25	0

Tour locations

location_code	location_name
1024	Table Mountain
1025	Robben Island
1026	Kruger National Park
1027	St Lucia

Tour Expeditions

location_code	employee_number	hours_worked	tourgroup_size
1024	978	5	8
1027	942	8	4
1025	923	3	20
1026	982	6	8
1024	978	5	8
1025	978	3	16

Answer the following using **SQL Joins**

EMPLOYEE_NUMBER
EMPLOYEE_NAME
HOURLY_RATE MONTHS_EMPLOYED
978
Siyabonge Nomvete
30 6
942
Jean-Marc Ithier
35 12

EMPLOYEE_NUMBER
EMPLOYEE_NAME
HOURLY_RATE MONTHS_EMPLOYED
923
Tyrone Arendse
32 6
982
Mathew Booth

LOCATION_CODE
LOCATION_NAME
1024
Table Mountain
1025
Robbden Island
1026
Kruger National Park

EMPLOYEE_NUMBER
EMPLOYEE_NAME
HOURLY_RATE MONTHS_EMPLOYED
25
0

LOCATION_CODE	EMPLOYEE_NUMBER	HOURS_WORKED	TOURGROUP_SIZE
1024	978	5	8
1027	942	8	4
1025	923	3	20
1026	982	6	8
1024	978	5	8
1025	978	3	16

- i. Display the employee names with their respective tour locations.

```
SELECT employee_number, location_name
FROM tour_locations, tour_expeditions
WHERE tour_locations.location_code =
      tour_expeditions.location_code;
```

EMPLOYEE_NUMBER	EMPLOYEE_NUMBER
-----	-----
LOCATION_NAME	LOCATION_NAME
-----	-----
978	982
Table Mountain	Kruger National Park
942	978
St Lucia	Table Mountain
923	978
Robbhen Island	Robbhen Island

- ii. Display the employee_numbers who had a trip to Table Mountain

```
SELECT DISTINCT employee_number, location_name
  FROM tour_locations, tour_expeditions
 WHERE tour_locations.location_code =
        tour_expeditions.location_code AND
        location_name='Table Mountain';
```

EMPLOYEE_NUMBER

LOCATION_NAME

978
Table Mountain

- iii. Display all the employees' names regardless of whether they have undertaken a trip or not? (use left outer join)

```
SELECT DISTINCT employee_name
  from tour_guides
 LEFT JOIN tour_expeditions ON
        tour_guides.employee_number =
tour_expeditions.employee_number;
```

EMPLOYEE_NAME

Siyabonge Nomvete
Tyrone Arendse
Mathew Booth
Jean-Marc Ithier

- iv. How do we return the employee numbers, names and locations of all guides, including those who have not yet given a trip

```

SELECT DISTINCT
tour_guides.employee_number, employee_name, location_name
FROM tour_guides
LEFT JOIN tour_expeditions ON
tour_guides.employee_number =
tour_expeditions.employee_number
LEFT JOIN tour_locations ON
tour_locations.location_code=tour_expeditions.location_code;

```

```

EMPLOYEE_NUMBER
-----
EMPLOYEE_NAME
-----
LOCATION_NAME
-----
          978
Siyabonge Nomvete
Robbhen Island

          982
Mathew Booth
Kruger National Park

```

```

EMPLOYEE_NUMBER
-----
EMPLOYEE_NAME
-----
LOCATION_NAME
-----
          942
Jean-Marc Ithier
St Lucia

          978
Siyabonge Nomvete

```

```

EMPLOYEE_NUMBER
-----
EMPLOYEE_NAME
-----
LOCATION_NAME
-----
          923
Tyrone Arendse
Robbhen Island

```

- v. Display all employees who've worked with a tour group of more than 10 people

```

SQL>SELECT employee_name
FROM tour_guides
WHERE employee_number IN (
SELECT employee_number
FROM tour_expeditions
WHERE tourgroup_size>10);

```

```

EMPLOYEE_NAME
-----
Tyrone Arendse
Siyabonge Nomvete

```

- vi. Find the names of all the employees who have the same hourly rate as Siyabonge Nomvete.(self join)

```

SQL>SELECT employee_name
FROM tour_guides
WHERE hourly_rate IN
(select hourly_rate
from tour_guides

```

```
where employee_name='Siyabonge Nomvete');
```

```
EMPLOYEE_NAME
-----
Siyabonge Nomvete
```

- vii. Display the employee name and employee number who have worked for more than 3 hours.

```
SELECT employee_name, employee_number
FROM tour_guides
WHERE employee_number IN
(select employee_number
  from tour_expeditions
  where hours_worked>3);
```

```
EMPLOYEE_NAME
-----
EMPLOYEE_NUMBER
-----
Siyabonge Nomvete
          978
Jean-Marc Ithier
          942
Mathew Booth
          982
```

- viii. Display the total information of the tour guides along with their hourly rate in asc order

```
SELECT * FROM tour_guides order by hourly_rate;
```

EMPLOYEE_NUMBER	EMPLOYEE_NAME	HOURLY_RATE	MONTHS_EMPLOYED
982	Mathew Booth	25	0
978	Siyabonge Nomvete	30	6
923	Tyrone Arendse	32	6
942	Jean-Marc Ithier	35	12

- ix. Display the tour location in which tour group have visited more than once.

```
SELECT DISTINCT
    tour_expeditions.employee_number, employee_name, location_name
FROM
    tour_locations, tour_expeditions, tour_guides
WHERE tour_locations.location_code =
    tour_expeditions.location_code AND
    tour_expeditions.employee_number=tour_guides.employee_number;
```

```
EMPLOYEE_NUMBER
-----
LOCATION_NAME
-----
          978
Table Mountain
          942
St Lucia
          923
Robbhen Island
```