

HU22CSEN0100287

21-08-2024

SET OPERATORS

```
Run SQL Command Line X + v

SQL>
SQL> select * from B1_Boats;

  BID BNAME      COLOR
-----
  101 Interlake  blue
  102 Interlake  red
  103 Clipper    green
  104 Marine     red

SQL> select * from S3_Sailors;

  SID SNAME      RATING  AGE
-----
   22 Dustin      7       45
   29 Brutus      1       33
   31 Lubber      8      55.5
   32 Andy        8      25.5
   58 Rusty      10       35
   64 Horatio     7       35
   71 Zorba      10       16
   74 Horatio     9       35
   85 Art        3      25.5
   95 Bob        3      63.5

10 rows selected.

SQL> select * from R2_Reserves;

  SID      BID DAY
-----
   22      101 10-OCT-98
   22      102 10-OCT-98
   22      103 10-AUG-98
   22      104 10-JUL-98
   31      102 11-OCT-98
   31      103 11-JUN-98
   31      104 11-DEC-98
   64      101 09-MAY-98
   64      102 09-AUG-98
   74      103 09-AUG-98

10 rows selected.

SQL> create view boat as select * from B1_Boats;

View created.
```

```
SQL> select * from boat;

  BID BNAME      COLOR
-----
  101 Interlake  blue
  102 Interlake  red
  103 Clipper    green
  104 Marine     red
```

```
Run SQL Command Line X + v

SQL> create view boats as select bid,bname,sid,sname from B1_Boats b,S3_Sailors s where s.sname='Horatio';

View created.

SQL> select * from boats;

      BID BNAME      SID SNAME
-----
      101 Interlake      64 Horatio
      102 Interlake      64 Horatio
      103 Clipper        64 Horatio
      104 Marine         64 Horatio
      101 Interlake      74 Horatio
      102 Interlake      74 Horatio
      103 Clipper        74 Horatio
      104 Marine         74 Horatio

8 rows selected.
```

```
Run SQL Command Line X + v

SQL> select sid,sname from S3_Sailors union select bid,bname from B1_Boats;

      SID SNAME
-----
      22 Dustin
      29 Brutus
      31 Lubber
      32 Andy
      58 Rusty
      64 Horatio
      71 Zorba
      74 Horatio
      85 Art
      95 Bob
     101 Interlake

      SID SNAME
-----
     102 Interlake
     103 Clipper
     104 Marine

14 rows selected.

SQL> select sid,sname from S3_Sailors union all select bid,bname from B1_Boats;

      SID SNAME
-----
      22 Dustin
      29 Brutus
      31 Lubber
      32 Andy
      58 Rusty
      64 Horatio
      71 Zorba
      74 Horatio
      85 Art
      95 Bob
     101 Interlake

      SID SNAME
-----
     102 Interlake
     103 Clipper
     104 Marine

14 rows selected.
```

```
SQL> select sid,sname from S3_Sailors intersect select bid,bname from B1_Boats;

no rows selected
```

```
SQL> select sid,sname from S3_Sailors minus select bid,bname from B1_Boats;
```

SID	SNAME
22	Dustin
29	Brutus
31	Lubber
32	Andy
58	Rusty
64	Horatio
71	Zorba
74	Horatio
85	Art
95	Bob

10 rows selected.

```
SQL> |
```

NESTED QUERIES

```
SQL> CREATE TABLE departments (department_id NUMBER PRIMARY KEY, department_name VARCHAR2(50) NOT NULL);
```

Table created.

```
SQL> CREATE TABLE employees (employee_id NUMBER PRIMARY KEY, employee_name VARCHAR2(50) NOT NULL, department_id NUMBER, salary NUMBER, FOREIGN KEY (department_id) REFERENCES departments(department_id));
```

Table created.

```
SQL> INSERT INTO departments (department_id, department_name) VALUES (1, 'Sales');
```

1 row created.

```
SQL> INSERT INTO departments (department_id, department_name) VALUES (2, 'Marketing');
```

1 row created.

```
SQL> INSERT INTO departments (department_id, department_name) VALUES (3, 'Engineering');
```

1 row created.

```
SQL> INSERT INTO employees (employee_id, employee_name, department_id, salary) VALUES (101, 'Alice Smith', 1, 70000);
```

1 row created.

```
SQL> INSERT INTO employees (employee_id, employee_name, department_id, salary) VALUES (102, 'Bob Brown', 1, 80000);
```

1 row created.

```
SQL> INSERT INTO employees (employee_id, employee_name, department_id, salary) VALUES (103, 'Charlie Johnson', 2, 60000);
```

1 row created.

```
SQL> INSERT INTO employees (employee_id, employee_name, department_id, salary) VALUES (104, 'Diana Ross', 2, 65000);
```

1 row created.

```
SQL> INSERT INTO employees (employee_id, employee_name, department_id, salary) VALUES (105, 'Eve Davis', 3, 90000);
```

1 row created.

```
SQL> select * from departments;
```

```
DEPARTMENT_ID DEPARTMENT_NAME
```

```
-----  
1 Sales  
2 Marketing  
3 Engineering
```

```
SQL> select * from employees;
```

```
EMPLOYEE_ID EMPLOYEE_NAME DEPARTMENT_ID
```

```
-----  
SALARY  
-----  
101 Alice Smith 1  
70000  
102 Bob Brown 1  
80000  
103 Charlie Johnson 2  
60000
```

```
EMPLOYEE_ID EMPLOYEE_NAME DEPARTMENT_ID
```

```
-----  
SALARY  
-----  
104 Diana Ross 2  
65000  
105 Eve Davis 3  
90000
```

```
SQL> |
```

```
SQL> SELECT employee_name FROM employees WHERE department_id = (SELECT department_id FROM employees WHERE employee_name = 'Alice Smith');
```

```
EMPLOYEE_NAME
```

```
-----  
Alice Smith  
Bob Brown
```

```
SQL> SELECT department_name FROM departments WHERE department_id = (SELECT department_id FROM employees WHERE employee_id = 101);
```

```
DEPARTMENT_NAME
```

```
-----  
Sales
```

```
SQL> SELECT employee_name FROM employees WHERE department_id = (SELECT department_id FROM employees WHERE employee_id = 102);
```

```
EMPLOYEE_NAME
```

```
-----  
Alice Smith  
Bob Brown
```

```
SQL> SELECT employee_name FROM employees WHERE salary = (SELECT salary FROM employees WHERE employee_name = 'Bob Brown');
```

```
EMPLOYEE_NAME
```

```
-----  
Bob Brown
```

```
SQL> |
```

```
SQL> SELECT employee_name, salary, department_id FROM employees e1 WHERE salary > (SELECT AVG(salary) FROM employees e2 WHERE e1.department_id = e2.department_id);
```

```
EMPLOYEE_NAME SALARY DEPARTMENT_ID
```

```
-----  
Bob Brown 80000 1  
Diana Ross 65000 2
```

```
SQL> SELECT employee_name, salary, department_id FROM employees e1 WHERE salary = (SELECT MAX(salary) FROM employees e2 WHERE e1.department_id = e2.department_id);
```

```
EMPLOYEE_NAME SALARY DEPARTMENT_ID
```

```
-----  
Bob Brown 80000 1  
Diana Ross 65000 2  
Eve Davis 90000 3
```

```
SQL> SELECT employee_name FROM employees WHERE department_id = (SELECT department_id FROM departments WHERE department_name = 'Sales');
```

```
EMPLOYEE_NAME
```

```
-----  
Alice Smith  
Bob Brown
```