ALL,ANY,SOME

ALL

```
SQL> -- Comparison must be true for ALL values.
SQL> SELECT empno, sal
  2  FROM   emp
  3  WHERE  sal > ALL (2000, 3000, 4000);

     EMPNO        SAL
---------- ----------
      7839       5000

1 row selected.
```

Contd...

```
SQL> -- Comparison must be true for ALL values returned by subquery.
SQL> SELECT e1.empno, e1.sal
  2  FROM   emp e1
  3  WHERE  e1.sal > ALL (SELECT e2.sal
  4                       FROM   emp e2
  5                       WHERE  e2.deptno = 20);

     EMPNO         SAL
---------- ----------
      7839       5000

1 row selected.
```

Contd..

```
SQL> -- If subquery returns 0 rows, condition evaluates to TRUE.
SQL> SELECT e1.empno, e1.sal
  2  FROM   emp e1
  3  WHERE  e1.sal > ALL (SELECT e2.sal
  4                       FROM   emp e2
  5                       WHERE  e2.deptno = 100)
```

WITHOUT ALL

```
SQL> -- Transformed to equivalent statement without ALL.
SQL> SELECT empno, sal
  2  FROM   emp
  3  WHERE  sal > 2000 AND sal > 3000 AND sal > 4000;

     EMPNO          SAL
---------- ----------
      7839        5000

1 row selected.
```

ANY

```
SQL> -- Two step transformation.
SQL> -- 1) Transformed to equivalent statement using ANY.
SQL> SELECT e1.empno, e1.sal
  2  FROM   emp e1
  3  WHERE  NOT (e1.sal <= ANY (SELECT e2.sal
  4                             FROM emp e2
  5                             WHERE e2.deptno = 20));

     EMPNO        SAL
---------- ----------
      7839       5000

1 row selected.
```

Without ANY

```
SQL> -- 2) Transformed to equivalent statement without ANY.
SQL> SELECT e1.empno, e1.sal
  2  FROM   emp e1
  3  WHERE  NOT EXISTS (SELECT e2.sal
  4                     FROM emp e2
  5                     WHERE e2.deptno = 20
  6                     AND   e1.sal <= e2.sal);

     EMPNO         SAL
---------- ----------
      7839       5000

1 row selected.
```

EMPNO	SAL
7369	800
7900	950
7876	1100
7521	1250
7654	1250
7934	1300
7844	1500
7499	1600
7782	2450
7698	2850
7566	2975
7788	3000
7902	3000
7839	5000

14 rows selected.

ANY

```
SQL> -- Comparison must be true for 1 or more values.
SQL> SELECT empno, sal
  2  FROM   emp
  3  WHERE  sal > ANY (2000, 3000, 4000);

     EMPNO        SAL
---------- ----------
      7566       2975
      7698       2850
      7782       2450
      7788       3000
      7839       5000
      7902       3000

6 rows selected.
```

Without ANY

```
SQL> -- Transformed to equivalent statement without ANY.
SQL> SELECT empno, sal
  2  FROM   emp
  3  WHERE  sal > 2000 OR sal > 3000 OR sal > 4000;

     EMPNO        SAL
---------- ----------
      7566       2975
      7698       2850
      7782       2450
      7788       3000
      7839       5000
      7902       3000

6 rows selected.
```

Contd..

```
SQL> -- Comparison must be true for 1 or more values returned by subquery
SQL> SELECT e1.empno, e1.sal
  2  FROM   emp e1
  3  WHERE  e1.sal > ANY (SELECT e2.sal
  4                       FROM   emp e2
  5                       WHERE  e2.deptno = 10);

     EMPNO        SAL
---------- ----------
      7839       5000
      7902       3000
      7788       3000
      7566       2975
      7698       2850
      7782       2450
      7499       1600
      7844       1500

8 rows selected.
```

Contd..

```
SQL> -- Transformed to equivalent statement without ANY.
SQL> SELECT e1.empno, e1.sal
  2  FROM   emp e1
  3  WHERE  EXISTS (SELECT e2.sal
  4                 FROM emp e2
  5                 WHERE e2.deptno = 10
  6                 AND   e1.sal > e2.sal)
```

Contd..

EMPNO	SAL
7839	5000
7902	3000
7788	3000
7566	2975
7698	2850
7782	2450
7499	1600
7844	1500

8 rows selected.

Contd..

```
SQL> -- If subquery returns 0 rows, condition evaluates to FALSE.
SQL> SELECT e1.empno, e1.sal
  2  FROM   emp e1
  3  WHERE  e1.sal > ANY (SELECT e2.sal
  4                       FROM   emp e2
  5                       WHERE  e2.deptno = 100);

no rows selected
```

SOME

```
SQL> -- SOME and ANY do the same thing.
SQL> SELECT empno, sal
  2  FROM   emp
  3  WHERE  sal > SOME (2000, 3000, 4000);

     EMPNO          SAL
---------- ----------
      7566        2975
      7698        2850
      7782        2450
      7788        3000
      7839        5000
      7902        3000

6 rows selected.
```

```
SQL> -- SOME and ANY do the same thing.
SQL> SELECT empno, sal
  2  FROM   emp
  3  WHERE  sal > SOME (2000, 3000, 4000);

     EMPNO          SAL
---------- ----------
      7566        2975
      7698        2850
      7782        2450
      7788        3000
      7839        5000
      7902        3000

6 rows selected.
```