

-- 1

-- Explain the difference between the UNION ALL and UNION operators

-- In what cases are they equivalent?

-- When they are equivalent, which one should you use?

The only difference between Union and Union All is that

Union extracts the rows that are being specified in the query while

Union All extracts all the rows including the duplicates (repeated values) from both the queries

```
[7] 1  -- 2
2  -- Write a query that generates a virtual auxiliary table of 10 numbers
3  -- in the range 1 through 10
4  -- Tables involved: no table
5
6  -- Auxiliary table of digits
7  --SELECT ones.n + 10*tens.n + 100*hundreds.n + 1000*thousands.n AS number
8  --FROM (VALUES(0),(1),(2),(3),(4),(5),(6),(7),(8),(9)) ones(n),
9  --      (VALUES(0),(1),(2),(3),(4),(5),(6),(7),(8),(9)) tens(n),
10 --      (VALUES(0),(1),(2),(3),(4),(5),(6),(7),(8),(9)) hundreds(n),
11 --      (VALUES(0),(1),(2),(3),(4),(5),(6),(7),(8),(9)) thousands(n)
12 --ORDER BY 1
13
14 --METHOD 2
15 --DROP TABLE IF EXISTS dbo.Digits;
16
17 --CREATE TABLE dbo.Digits(digit INT NOT NULL PRIMARY KEY);
18
19 --INSERT INTO dbo.Digits(digit)
20 -- VALUES (0),(1),(2),(3),(4),(5),(6),(7),(8),(9);
21
22 --SELECT digit FROM dbo.Digits;
23
24
25 SELECT ones.n AS n
26 From (VALUES(0),(1),(2),(3),(4),(5),(6),(7),(8),(9))ones(n)
27
```

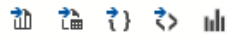
(10 rows affected)

Total execution time: 00:00:00.030

[7]

(10 rows affected)

Total execution time: 00:00:00.030



	n	✓
1	0	
2	1	
3	2	
4	3	
5	4	
6	5	
7	6	
8	7	
9	8	
10	9	

```
[11] 1  -- 3
      2  -- Write a query that returns customer and employee pairs
      3  -- that had order activity in January 2016 but not in February 2016
      4  -- Tables involved: TSQLV4 database, Orders table
      5
      6  USE TSQLV4;
      7  GO
      8  SELECT custid,empid
      9  FROM SALES.Orders
     10  WHERE orderdate >= '2016-01-01' AND orderdate <'2016-02-01'
     11
     12  EXCEPT -- in table 1 but not in table 2
     13
     14  SELECT custid,empid
     15  FROM SALES.Orders
     16  WHERE orderdate >= '2016-02-01' AND orderdate <'2016-03-01'
     17
     18  USE Northwinds2022TSQLV7;
     19  GO
     20  SELECT CustomerId,EmployeeId
     21  FROM SALES.[Order]
     22  WHERE orderdate >= '2016-01-01' AND orderdate <'2016-02-01'
     23
     24  EXCEPT -- in table 1 but not in table 2
     25
     26  SELECT CustomerId,EmployeeId
     27  FROM SALES.[Order]
     28  WHERE orderdate >= '2016-02-01' AND orderdate <'2016-03-01'
```

Commands completed successfully.

(50 rows affected)

(50 rows affected)

Total execution time: 00:00:00.087



	custid	empid
9	16	7
10	17	1
11	20	7
12	24	8
13	25	1
14	26	3
15	32	4
16	38	9
17	39	3
18	40	2
19	41	2
20	42	2
21	44	8
22	47	3
23	47	4
24	47	8
25	49	7
26	55	2
27	55	3
28	56	6



	CustomerId	EmployeeId
1	1	1
2	3	3
3	5	8
4	5	9
5	6	9
6	7	6



	CustomerId	EmployeeId
1	1	1
2	3	3
3	5	8
4	5	9
5	6	9
6	7	6
7	9	1
8	12	2
9	16	7
10	17	1
11	20	7
12	24	8
13	25	1
14	26	3
15	32	4
16	38	9
17	39	3
18	40	2
19	41	2
20	42	2



```
1  -- 4
2  -- Write a query that returns customer and employee pairs
3  -- that had order activity in both January 2016 and February 2016
4  -- Tables involved: TSQLV4 database, Orders table
5  USE TSQLV4;
6  GO
7  SELECT custid,empid
8  FROM SALES.Orders
9  WHERE orderdate >= '2016-01-01' AND orderdate <'2016-02-01'
10
11 INTERSECT -- return both in table 1 and table 2
12
13 SELECT custid,empid
14 FROM SALES.Orders
15 WHERE orderdate >= '2016-02-01' AND orderdate <'2016-03-01'
16
```

```

2  -- Write a query that returns customer and employee pairs
3  -- that had order activity in both January 2016 and February 2016
4  -- Tables involved: TSQLV4 database, Orders table
5  USE TSQLV4;
6  GO
7  SELECT custid,empid
8  FROM SALES.Orders
9  WHERE orderdate >= '2016-01-01' AND orderdate < '2016-02-01'
10
11 INTERSECT -- return both in table 1 and table 2
12
13 SELECT custid,empid
14 FROM SALES.Orders
15 WHERE orderdate >= '2016-02-01' AND orderdate < '2016-03-01'
16
17 USE Northwinds2022TSQLV7;
18 GO
19 SELECT CustomerId,EmployeeId
20 FROM SALES.[Order]
21 WHERE orderdate >= '2016-01-01' AND orderdate < '2016-02-01'
22
23 INTERSECT -- return both in table 1 and table 2
24
25 SELECT CustomerId,EmployeeId
26 FROM SALES.[Order]
27 WHERE orderdate >= '2016-02-01' AND orderdate < '2016-03-01'

```

Commands completed successfully.

(5 rows affected)

(5 rows affected)

Total execution time: 00:00:00.095



	custid	empid
1	20	3
2	39	9
3	46	5
4	67	1
5	71	4



	CustomerId	EmployeeId
1	20	3
2	39	9
3	46	5
4	67	1
5	71	4

SQL Editor

	CustomerId	EmployeeId
1	20	3
2	39	9
3	46	5
4	67	1
5	71	4

```
1  -- 5
2  -- Write a query that returns customer and employee pairs
3  -- that had order activity in both January 2016 and February 2016
4  -- but not in 2015
5  -- Tables involved: TSQV4 database, Orders table
6
7  USE TSQV4;
8  GO
9  SELECT custid,empid
10 FROM SALES.Orders
11 WHERE orderdate >= '2016-01-01' AND orderdate <'2016-02-01'
12
13 INTERSECT -- return both in table 1 and table 2
14
15 SELECT custid,empid
16 FROM SALES.Orders
17 WHERE orderdate >= '2016-02-01' AND orderdate <'2016-03-01'
18
19 EXCEPT
20 SELECT custid,empid
21 FROM SALES.Orders
22 WHERE orderdate >= '2015-01-01' AND orderdate <'2016-01-01'
23
24
25 USE Northwinds2022TSQV7;
26 GO
27 SELECT CustomerId,EmployeeId
28 FROM SALES.[Order]
29 WHERE orderdate >= '2016-01-01' AND orderdate <'2016-02-01'
30
31 INTERSECT -- return both in table 1 and table 2
32
33 SELECT CustomerId,EmployeeId
34 FROM SALES.[Order]
35 WHERE orderdate >= '2016-02-01' AND orderdate <'2016-03-01'
36 EXCEPT
37 SELECT CustomerId,EmployeeId
38 FROM SALES.[Order]
39 WHERE orderdate >= '2015-01-01' AND orderdate <'2016-01-01'
40
```

Commands completed successfully.

(2 rows affected)

(2 rows affected)

Total execution time: 00:00:00.100



	custid ▾	empid ▾
1	46	5
2	67	1



	CustomerId ▾	EmployeeId ▾
1	67	1
2	46	5
