

1.

```
[2] 1  USE Northwinds2022TSQV7;  
    2  GO  
    3  SELECT E.EmployeeId, E.employeefirstname, E.employeeelastname, N.n  
    4  FROM HumanResources.Employee AS E  
    5  CROSS JOIN dbo.Nums AS N  
    6  WHERE N.n <= 5  
    7  ORDER BY n, EmployeeId;
```

Commands completed successfully.

(45 rows affected)

Total execution time: 00:00:00.047



	EmployeeId	employeefirstname	employeeelastname	n
1	1	Sara	Davis	1
2	2	Don	Funk	1
3	3	Judy	Lew	1
4	4	Yael	Peled	1
5	5	Sven	Mortensen	1
6	6	Paul	Suurs	1
7	7	Russell	King	1
8	8	Maria	Cameron	1
9	9	Patricia	Doyle	1
10	1	Sara	Davis	2
11	2	Don	Funk	2
12	3	Judy	Lew	2
13	4	Yael	Peled	2
14	5	Sven	Mortensen	2
15	6	Paul	Suurs	2
16	7	Russell	King	2
17	8	Maria	Cameron	2
18	9	Patricia	Doyle	2
19	1	Sara	Davis	3
20	2	Don	Funk	3

1.2

```
[12] 1  USE Northwinds2022TSQLV7
      2  GO
      3  SELECT E.employeeID, DATEADD(day, n-1, CAST('20160612' AS DATE)) AS dt
      4  FROM HumanResources.Employee AS E
      5  CROSS JOIN DBO.Nums AS N
      6  WHERE N <= DATEDIFF(day, '20160612', '20160616') + 1
      7  ORDER BY E.employeeID, dt
```

Commands completed successfully.

(45 rows affected)

Total execution time: 00:00:00.053



	employeeID	dt
1	1	2016-06-12
2	1	2016-06-13
3	1	2016-06-14
4	1	2016-06-15
5	1	2016-06-16
6	2	2016-06-12
7	2	2016-06-13
8	2	2016-06-14
9	2	2016-06-15
10	2	2016-06-16
11	3	2016-06-12
12	3	2016-06-13
13	3	2016-06-14
14	3	2016-06-15
15	3	2016-06-16
16	4	2016-06-12
17	4	2016-06-13
18	4	2016-06-14
19	4	2016-06-15
20	4	2016-06-16

2.

-- 2

-- Explain what's wrong in the following query and provide a correct alternative

```
SELECT Customers.custid, Customers.companyname, Orders.orderid, Orders.orderdate
```

```
FROM Sales.Customers AS C
```

```
INNER JOIN Sales.Orders AS O
```

```
ON Customers.custid = Orders.custid;
```

Answer: In the table above, its rename Sales.Customers AS C and Sales.Orders AS O, which mean select 'Customers' table and 'Orders' table can not be found

~

3.

```
[1] 1
2  USE Northwinds2022TSQV7;
3  GO
4  SELECT c.CustomerId, COUNT(DISTINCT O.orderid) AS numorders, SUM(Quantity) AS totalqty
5  FROM sales.Customer AS C
6       INNER JOIN sales.[Order] AS O
7       ON C.customerid = O.customerid
8       INNER JOIN sales.orderdetail AS D
9       ON O.orderid = D.orderid
10 WHERE C.customercountry = 'USA'
11 GROUP BY C.CustomerId;
```

Commands completed successfully.

(13 rows affected)

Total execution time: 00:00:00.044



	CustomerId	numorders	totalqty
1	32	11	345
2	36	5	122
3	43	2	20
4	45	4	181
5	48	8	134
6	55	10	603
7	65	18	1383
8	71	31	4958
9	75	9	327
10	77	4	46
11	78	3	59
12	82	3	89
13	89	14	1063

```

1  USE Northwinds2022TSQV7;
2  GO
3  SELECT O.CustomerId,C.CustomerCompanyName,O.OrderId,O.orderdate
4  FROM sales.Customer AS C
5       LEFT OUTER JOIN sales.[Order] AS O
6       ON C.CustomerId = O.CustomerId

```

Commands completed successfully.

(832 rows affected)

Total execution time: 00:00:00.066



	CustomerId	CustomerCompanyName	OrderId	orderdate
1	85	Customer ENQZT	10248	2014-07-04
2	79	Customer FAPSM	10249	2014-07-05
3	34	Customer IBVRG	10250	2014-07-08
4	84	Customer NRCSK	10251	2014-07-08
5	76	Customer SFOGW	10252	2014-07-09
6	34	Customer IBVRG	10253	2014-07-10
7	14	Customer WNMAF	10254	2014-07-11
8	68	Customer CCKOT	10255	2014-07-12
9	88	Customer SRQVM	10256	2014-07-15
10	35	Customer UMTLM	10257	2014-07-16
11	20	Customer THHDP	10258	2014-07-17
12	13	Customer VMLOG	10259	2014-07-18
13	56	Customer QNIVZ	10260	2014-07-19
14	61	Customer WULWD	10261	2014-07-19
15	65	Customer NYUHS	10262	2014-07-22
16	20	Customer THHDP	10263	2014-07-23
17	24	Customer CYZTN	10264	2014-07-24
18	7	Customer QXVLA	10265	2014-07-25
19	87	Customer ZHYOS	10266	2014-07-26
20	25	Customer A71FD	10267	2014-07-29

-- 5

5.

```
[4] 1  USE Northwinds2022TSQLV7;
    2  GO
    3  SELECT C.CustomerId,C.CustomerCompanyName
    4  FROM sales.Customer AS C
    5       LEFT OUTER JOIN sales.[Order] AS O
    6       ON O.CustomerId = C.CustomerId
    7       WHERE O.OrderId IS NULL
```

Commands completed successfully.

(2 rows affected)

Total execution time: 00:00:00.057



	CustomerId	CustomerCompanyName
1	22	Customer DTDMM
2	57	Customer WVAXS

6.

```

[5] 1  USE Northwinds2022TSQLV7;
    2  GO
    3  SELECT c.CustomerId, c.CustomerCompanyName, o.OrderId
    4  FROM sales.Customer AS C
    5       LEFT OUTER JOIN sales.[Order] AS O
    6       ON C.CustomerId =O.CustomerId
    7  WHERE O.OrderDate = '2016-02-12'

```

Commands completed successfully.

(3 rows affected)

Total execution time: 00:00:00.058



	CustomerId	CustomerCompanyName	OrderId
1	48	Customer DVFMB	10883
2	45	Customer QXPPT	10884
3	76	Customer SFOGW	10885

7.

```

[7] 1  USE Northwinds2022TSQLV7;
2  GO
3  SELECT c.customerid, c.CustomerCompanyName, o.orderID,
4         O.orderdate
5  FROM sales.Customer AS C
6       LEFT OUTER JOIN SALES.[ORDER] AS O
7       ON C.customerid = O.customerid
8       --AND DATEADD(day, 0, CAST('20160211' AS DATE)) = O.orderdate
9       AND o.orderdate = '20160212'
10

```

Commands completed successfully.

(91 rows affected)

Total execution time: 00:00:00.053



	customerid ▼	CustomerCompanyName ▼	orderID ▼	orderdate ▼
1	1	Customer NRZBB	NULL	NULL
2	2	Customer MLTDN	NULL	NULL
3	3	Customer KBUDE	NULL	NULL
4	4	Customer HFBZG	NULL	NULL
5	5	Customer HGV LZ	NULL	NULL
6	6	Customer XHXJV	NULL	NULL
7	7	Customer QXVLA	NULL	NULL
8	8	Customer QUHWH	NULL	NULL
9	9	Customer RTXGC	NULL	NULL
10	10	Customer EEALV	NULL	NULL
11	11	Customer UBHAU	NULL	NULL
12	12	Customer PSNMQ	NULL	NULL
13	13	Customer VMLOG	NULL	NULL
14	14	Customer WNMAF	NULL	NULL
15	15	Customer JUWXX	NULL	NULL
16	16	Customer GYBBY	NULL	NULL
17	17	Customer FEVNN	NULL	NULL
18	18	Customer BSVAR	NULL	NULL
19	19	Customer RFNQC	NULL	NULL
20	20	Customer THNDP	NULL	NULL

8.

-- 8 (Optional, Advanced)

-- Explain why the following query isn't a correct solution query for exercise 7

```
SELECT C.custid, C.companyname, O.orderid, O.orderdate
```

```
FROM Sales.Customers AS C
```

```
LEFT OUTER JOIN Sales.Orders AS O
```

```
ON O.custid = C.custid
```

```
WHERE O.orderdate = '20160212'
```

```
OR O.orderid IS NULL;
```

--WHERE O.orderdate = '20160212'

--OR O.orderid IS NULL;

--ANSWER: WHERE Clause select date with '20160212' only and OR select order.id NULL ONLY, this will result those rows contain null date and null id to be filtered.

9.

```

[8] 1  USE Northwinds2022TSQLV7
2  GO
3  SELECT C.customerid,C.CustomerCompanyName, HasOrderOn20160212 =
4  CASE
5  WHEN O.orderdate = '20160212' THEN 'YES'
6  ELSE 'NO'
7  END
8  FROM sales.Customer AS C
9  LEFT OUTER JOIN SALES.[ORDER] AS O
10  ON O.customerid = C.customerid AND O.orderdate = '20160212'
11

```

Commands completed successfully.

(91 rows affected)

Total execution time: 00:00:00.051



	customerid ▼	CustomerCompanyName ▼	HasOrderOn20160212 ▼
1	1	Customer NRZBB	NO
2	2	Customer MLTDN	NO
3	3	Customer KBUDE	NO
4	4	Customer HFBZG	NO
5	5	Customer HGV LZ	NO
6	6	Customer XHXJV	NO
7	7	Customer QXVLA	NO
8	8	Customer QUHWH	NO
9	9	Customer RTXGC	NO
10	10	Customer EEALV	NO
11	11	Customer UBHAU	NO
12	12	Customer PSNMQ	NO
13	13	Customer VMLOG	NO
14	14	Customer WNMAF	NO
15	15	Customer JUWXX	NO
16	16	Customer GYBBY	NO
17	17	Customer FEVNN	NO
18	18	Customer BSVAR	NO
19	19	Customer RFNQC	NO
20	20	Customer THNDP	NO