

Question 1

Creating DB

```
USE [CorporateDB]
GO

/***** Object: Table [dbo].[HR]    Script Date: 9/13/2021 12:57:07 AM *****/
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO

CREATE TABLE [dbo].[HR](
    [Empid] [int] NOT NULL,
    [Lastname] [varchar](50) NULL,
    [Firstname] [varchar](50) NULL,
    [Title] [varchar](50) NULL,
    [Hiredate] [date] NULL,
    CONSTRAINT [PK_HR] PRIMARY KEY CLUSTERED
    (
        [Empid] ASC
    )WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
) ON [PRIMARY]
GO
```

111 %

Messages

Commands completed successfully.

111 %

Query executed successfully. | MIA-SQL (14.0 RTM) | ADVENTUREWORKS\Student... | CorporateDB | 00:00:00 | 0 rows

Employee id sequence

```
-- Sequence object on Empid
CREATE SEQUENCE dbo.empsequence
AS INT
START WITH 1001
INCREMENT BY 1 ;
GO
```

111 %

Messages

Commands completed successfully.

111 %

Query executed successfully. | MIA-SQL (14.0 RTM) | ADVENTUREWORKS\Student... | CorporateDB | 00:00:00 | 0 rows

Question 2

Use only 3 tables [Sales.Orders] && [Sales.OrderDetails] && [Sales.Customers]

Sub-query to details in Sales.OrderDetails for most recent order

```
SELECT *
FROM Sales.OrderDetails
WHERE orderid = (SELECT MAX(orderid) FROM Sales.OrderDetails)

SELECT * FROM
(SELECT A.orderid, A.orderdate FROM Sales.Orders AS A
LEFT JOIN Sales.OrderDetails AS B
ON A.orderid = B.orderid) Main_Table
INNER JOIN
(SELECT orderid, MAX(orderdate) AS Max_date FROM Sales.Orders
GROUP BY orderid) Date_Table
ON Main_Table.orderdate = Date_Table.Max_date
```

	orderid	orderdate	orderid	Max_date
1	10248	2006-07-04 00:00:00.000	10248	2006-07-04 00:00:00.000
2	10248	2006-07-04 00:00:00.000	10248	2006-07-04 00:00:00.000
3	10248	2006-07-04 00:00:00.000	10248	2006-07-04 00:00:00.000
4	10249	2006-07-05 00:00:00.000	10249	2006-07-05 00:00:00.000
5	10249	2006-07-05 00:00:00.000	10249	2006-07-05 00:00:00.000
6	10250	2006-07-08 00:00:00.000	10250	2006-07-08 00:00:00.000
7	10250	2006-07-08 00:00:00.000	10250	2006-07-08 00:00:00.000
8	10250	2006-07-08 00:00:00.000	10250	2006-07-08 00:00:00.000
9	10251	2006-07-08 00:00:00.000	10250	2006-07-08 00:00:00.000
10	10251	2006-07-08 00:00:00.000	10250	2006-07-08 00:00:00.000
11	10251	2006-07-08 00:00:00.000	10250	2006-07-08 00:00:00.000
12	10250	2006-07-08 00:00:00.000	10251	2006-07-08 00:00:00.000
13	10250	2006-07-08 00:00:00.000	10251	2006-07-08 00:00:00.000
14	10250	2006-07-08 00:00:00.000	10251	2006-07-08 00:00:00.000
15	10251	2006-07-08 00:00:00.000	10251	2006-07-08 00:00:00.000
16	10251	2006-07-08 00:00:00.000	10251	2006-07-08 00:00:00.000
17	10251	2006-07-08 00:00:00.000	10251	2006-07-08 00:00:00.000

Query executed successfully. | MIA-SQL (14.0 RTM) | ADVENTUREWORKS\Student... | TSQL | 00:00:00 | 4573 rows

Multi-valued subquery about order info for customers in Germany

```
-- Qns 2

SELECT *
FROM Sales.Orders as o
LEFT JOIN Sales.OrderDetails as od ON od.orderid = o.orderid
WHERE custid IN (
    SELECT custid FROM Sales.Customers
    WHERE country IN ('Germany')
);
```

	orderid	custid	empid	orderdate	requireddate	shippeddate	shipperid	freight	shipname	shipaddress	shipcity	shipregion
1	10249	79	6	2006-07-05 00:00:00.000	2006-08-16 00:00:00.000	2006-07-10 00:00:00.000	1	11.61	Ship to 79-C	Luisenstr. 9012	Münster	NULL
2	10249	79	6	2006-07-05 00:00:00.000	2006-08-16 00:00:00.000	2006-07-10 00:00:00.000	1	11.61	Ship to 79-C	Luisenstr. 9012	Münster	NULL
3	10260	56	4	2006-07-19 00:00:00.000	2006-08-16 00:00:00.000	2006-07-29 00:00:00.000	1	55.09	Ship to 56-A	Mehrheimerstr. 0123	Köln	NULL
4	10260	56	4	2006-07-19 00:00:00.000	2006-08-16 00:00:00.000	2006-07-29 00:00:00.000	1	55.09	Ship to 56-A	Mehrheimerstr. 0123	Köln	NULL
5	10260	56	4	2006-07-19 00:00:00.000	2006-08-16 00:00:00.000	2006-07-29 00:00:00.000	1	55.09	Ship to 56-A	Mehrheimerstr. 0123	Köln	NULL
6	10260	56	4	2006-07-19 00:00:00.000	2006-08-16 00:00:00.000	2006-07-29 00:00:00.000	1	55.09	Ship to 56-A	Mehrheimerstr. 0123	Köln	NULL
7	10267	25	4	2006-07-29 00:00:00.000	2006-08-26 00:00:00.000	2006-08-06 00:00:00.000	1	208.58	Destination VAPXU	Berliner Platz 0123	München	NULL
8	10267	25	4	2006-07-29 00:00:00.000	2006-08-26 00:00:00.000	2006-08-06 00:00:00.000	1	208.58	Destination VAPXU	Berliner Platz 0123	München	NULL
9	10267	25	4	2006-07-29 00:00:00.000	2006-08-26 00:00:00.000	2006-08-06 00:00:00.000	1	208.58	Destination VAPXU	Berliner Platz 0123	München	NULL
10	10273	63	3	2006-08-05 00:00:00.000	2006-09-02 00:00:00.000	2006-08-12 00:00:00.000	3	76.07	Ship to 63-A	Taucherstraße 1234	Cunewalde	NULL

Query executed successfully. | MIA-SQL (14.0 RTM) | ADVENTUREWORKS\Student... | TSQL | 00:00:00 | 328 rows

Question 3

Create view with encryption of a Groupby Sale.OrderDetails with specified columns

```
-- Qns 3.1
CREATE VIEW SalesView
WITH encryption AS
SELECT ProductID as ProductID, UnitPrice as UnitPrice, SUM(qty) as OrderQty
FROM Sales.OrderDetails
GROUP BY ProductID, UnitPrice
HAVING UnitPrice > 50
```

Messages

Commands completed successfully.

Query executed successfully. | MIA-SQL (14.0 RTM) | ADVENTUREWORKS\Student... | TSQL | 00:00:00 | 0 rows

Reference to created view and order by unitprice

```
-- Qns 3.2
SELECT *
FROM SalesView
ORDER BY UnitPrice DESC
```

Results

	ProductID	UnitPrice	OrderQty
1	38	263.50	354
2	38	210.80	269
3	29	123.79	560
4	29	99.00	186
5	9	97.00	75
6	20	81.00	207
7	9	77.60	20
8	20	64.80	106
9	18	62.50	403
10	59	55.00	952
11	51	53.00	677

Messages

Query executed successfully. | MIA-SQL (14.0 RTM) | ADVENTUREWORKS\Student... | TSQL | 00:00:00 | 11 rows

Question 4

Create encrypted procedure that can be updated by end-user. Dynamic information entry.

Drop the procedure

```
CREATE PROCEDURE updateEmpl @JobTitle nvarchar(50), @HireDate DATE, @CurrentFlag Flag:Bit, @BusinessEntityID int
WITH encryption AS
BEGIN
    UPDATE [HumanResources].[Employee]
    SET JobTitle = @JobTitle,
        HireDate = @HireDate,
        CurrentFlag = @CurrentFlag
    WHERE BusinessEntityID = @BusinessEntityID
END

-- drop the procedure
DROP PROCEDURE updateEmpl;
GO

DROP PROCEDURE IF EXISTS updateEmpl;
```

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Results Messages

	BusinessEntityID	NationalIDNumber	LoginID	OrganizationNode	OrganizationLevel	JobTitle	BirthDate	MaritalStatus	Gender	HireDate
1	1	295847284	adventure-works\ken0	0x	0	Chief Executive Officer	1963-03-02	S	M	2003-02-15
2	2	245797967	adventure-works\tem0	0x58	1	Vice President of Engineering	1965-09-01	S	F	2002-03-03
3	3	509647174	adventure-works\roberto0	0x5AC0	2	Engineering Manager	1968-12-13	M	M	2001-12-12
4	4	112457891	adventure-works\rob0	0x5AD6	3	Senior Tool Designer	1969-01-23	S	M	2002-01-05
5	5	695256908	adventure-works\gail0	0x5ADA	3	Design Engineer	1946-10-29	M	F	2002-02-06
6	6	998320692	adventure-works\jossef0	0x5ADE	3	Design Engineer	1953-04-11	M	M	2002-02-24
7	7	134969118	adventure-works\dylan0	0x5AE1	3	Research and Development Manager	1981-03-27	M	M	2003-03-12
8	8	811994146	adventure-works\diane1	0x5AE158	4	Research and Development Engineer	1980-07-06	S	F	2003-01-30
9	9	658797903	adventure-works\gigi0	0x5AE168	4	Research and Development Engineer	1973-02-21	M	F	2003-02-17
10	10	879342154	adventure-works\michael6	0x5AE178	4	Research and Development Manager	1979-01-01	M	M	2003-06-04
11	11	974026903	adventure-works\ovidiu0	0x5AE3	3	Senior Tool Designer	1972-02-18	S	M	2005-01-05
12	12	480168528	adventure-works\thieny0	0x5AE358	4	Tool Designer	1953-08-29	M	M	2002-01-11
13	13	486228782	adventure-works\janice0	0x5AE368	4	Tool Designer	1983-06-29	M	F	2005-01-23
14	14	424877740	adventure-works\michael8	0x5AE5	3	Senior Design Engineer	1973-07-17	S	M	2005-11-30

Query executed successfully. | MIA-SQL (14.0 RTM) | ADVENTUREWORKS\Student... | AdventureWorks | 00:00:00 | 290 rows