Task

Please write scripts, create database diagram, feed database with sample data.

"Our organization cooperates with many customers from Europe. Each customer's purchase is documented by invoice with 14-day payment due date, unless previous quarter of customer's purchase history was free of payment delays (no overdue payments)- if so the payment due date is extended from 14 to 21 days."

Create a solution which:

*automates and determines each customer's payment due date,

provides business users with the following information:

*the list of customers with 21-day payment due date,

*the list of customers entitled next quarter to 21-day payment due date,

*the list of customers with overdue payments

*the list of customers, occurrence of overdue payments, total orders value, the most bought products per customer

*the list of products, average quantity and value of product ordered, which customer ordered the most (value, number of orders)

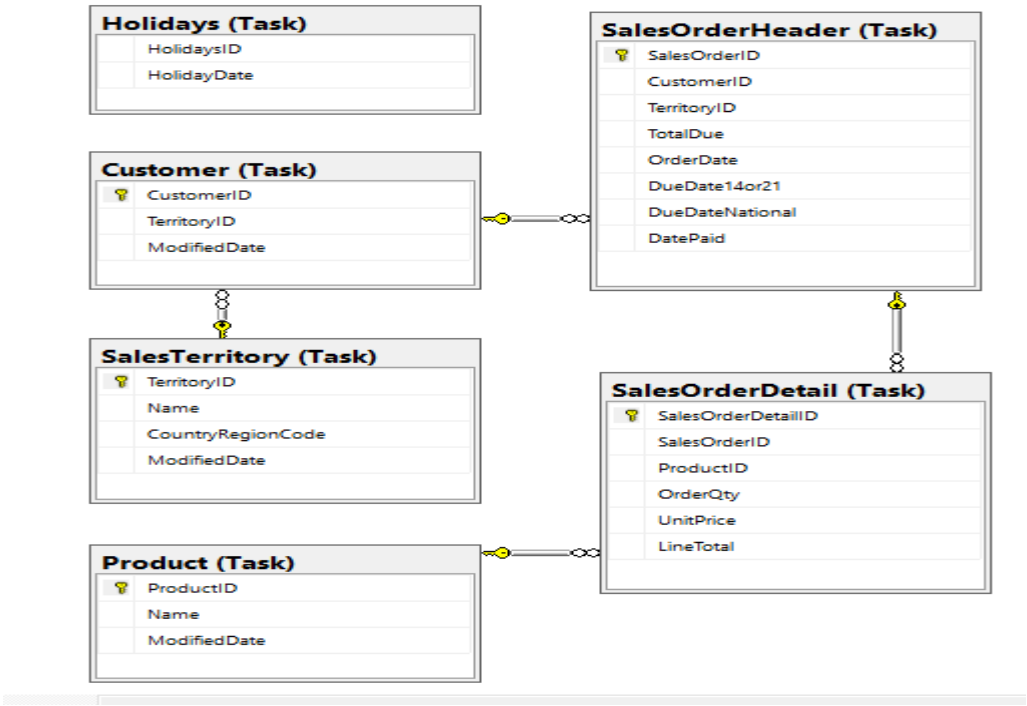
Description

The sequence of tasks to execute:

A. Download database: AdventureWorks2017
https://docs.microsoft.com/en-us/sql/samples/adventureworks-install-configure?view=sql-server-ver15&tabs=ssms

B. Execute scripts in turn by file number:
   1. DDL tables functions procedure automation feeding with data
   2. Procedures
   3. Add constraints

ERD



Assumptions:

- Every invoice has a payment due date
- Payment due date is either 14 or 21 days. If payment due date is on Saturday, Sunday or national holiday then payment due date is moved to the next day.
- I used sample data from Microsoft database: AdventureWorks2017. Link:
- https://docs.microsoft.com/en-us/sql/samples/adventureworks-install-configure?view=sql-server-ver15&tabs=ssms

- AdventureWorks2017 database contains a lot of data which is not important for the task. For that reason I created schema: TASK.

LIST OF FUNCTIONS

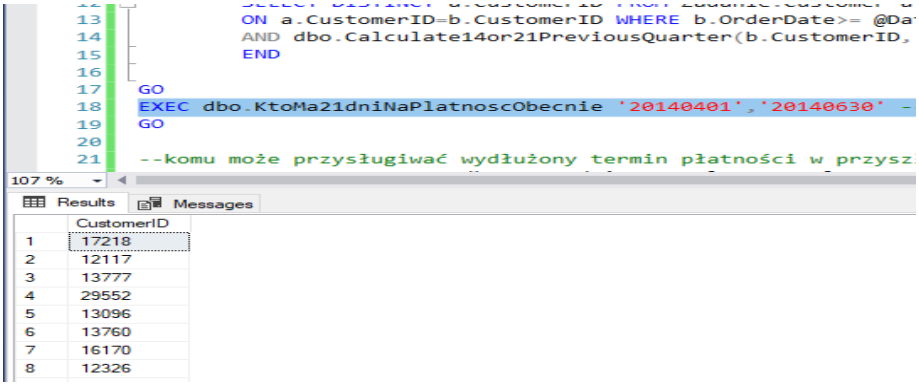
```
1
-- function calculates the right payment due date- 14 or 21.
	Create FUNCTION Calculate14or21PreviousQuarter
2
-- recursive function, calculates a new payment due date if current due date is on
Saturday, Sunday, national holiday.
	Create FUNCTION ShowRealDueDate
```

LIST OF PROCEDURES

```
1
--procedure automates calculation of payment due date quarterly:
	-14 or 21 for primary period of time
	-afterwards payment due date (if Saturday, Sunday, national holiday) for next
	periods of time
```

```
CREATE PROCEDURE [dbo].Automation
```

```
2
-- list of customers with extended payment due date (21 days)
CREATE PROCEDURE dbo.WhoHas21daysForPaymentsNow
```



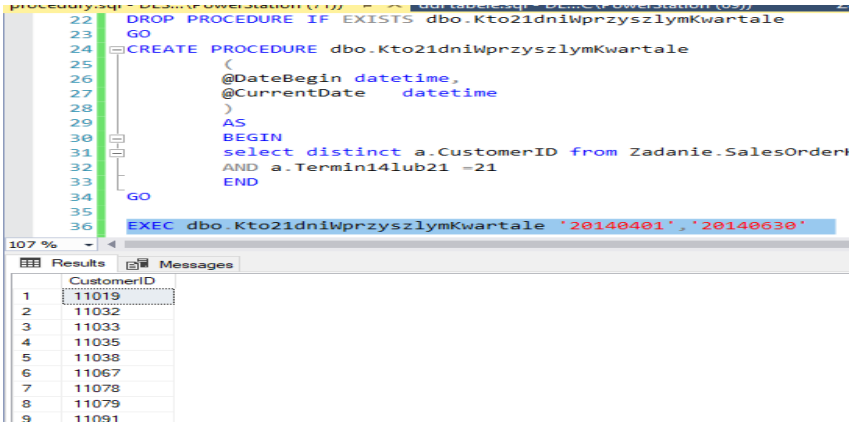
```
13          ON a.CustomerID=b.CustomerID WHERE b.OrderDate>= @Da
14          AND dbo.Calculate14or21PreviousQuarter(b.CustomerID,
15          END
16
17  GO
18  EXEC dbo.KtoMa21dniNaPlatnoscObecnie '20140401','20140630' -
19  GO
20
21  --komu może przysługiwać wydłużony termin płatności w przysz
```

107 %

Results | Messages

	CustomerID
1	17218
2	12117
3	13777
4	29552
5	13096
6	13760
7	16170
8	12326

```
3
--procedure/ list of customers entitled to extended payment due date next quarter
CREATE PROCEDURE dbo.WhoHas21daysForPaymentsNextQuarter
```



```
22  DROP PROCEDURE IF EXISTS dbo.Kto21dniWprzyszlymKwartale
23  GO
24  CREATE PROCEDURE dbo.Kto21dniWprzyszlymKwartale
25          (
26          @DateBegin datetime,
27          @CurrentDate    datetime
28          )
29          AS
30          BEGIN
31          select distinct a.CustomerID from Zadanie.SalesOrderH
32          AND a.Termin14lub21 =21
33          END
34  GO
35
36  EXEC dbo.Kto21dniWprzyszlymKwartale '20140401','20140630'
```

107 %

Results | Messages

	CustomerID
1	11019
2	11032
3	11033
4	11035
5	11038
6	11067
7	11078
8	11079
9	11091

```
4
--procedure/ list of customers with overdue payments from…. to……
CREATE PROCEDURE dbo.CustomersWithOverDuePayments
```

```
62
63 --EXEC dbo.CustomersWithOverDuePayments '20140301','20140615'
64 GO
```

107 %

Results | Messages

	CustomerID	SalesOrderID	NumberOfOverdueDays
1	29958	67313	5
2	29587	67343	1
3	26045	67360	4
4	21744	67365	3
5	14509	67372	4
6	15922	67374	2
7	24724	67376	1
8	15135	67390	3
9	26660	67391	5
10	18200	67394	1

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```
--procedure/ list of customers, occurrence of overdue payments, total orders value, the most bought products per customer
--Receivables index calculated for the period of time
--((Customer's orders value* number of days between payment due date and payment date)/Customer's orders value)
CREATE PROCEDURE dbo.StatisticsOfCustomers
```

```
123
124 --EXEC dbo.StatisticsOfCustomers '20110301','20140615' --testing procedure
```

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Results | Messages

	CustomerID	OrdersValue	NumberOfOrders	ReceivableIndex	ProductID	ProductName	OrderQty
1	11000	27345,4023	9	2,2291	NULL	NULL	NULL
2	11000	NULL	NULL	NULL	707	Sport-100 Helmet, Red	1
3	11000	NULL	NULL	NULL	771	Mountain-100 Silver, 38	1
4	11000	NULL	NULL	NULL	779	Mountain-200 Silver, 38	1
5	11000	NULL	NULL	NULL	878	Fender Set - Mountain	1
6	11000	NULL	NULL	NULL	881	Short-Sleeve Classic Jersey, S	1
7	11000	NULL	NULL	NULL	923	Touring Tire Tube	1
8	11000	NULL	NULL	NULL	934	Touring Tire	1
9	11000	NULL	NULL	NULL	966	Touring-1000 Blue, 46	1
10	11001	21162,5625	9	2,00	NULL	NULL	NULL
11	11001	NULL	NULL	NULL	870	Water Bottle - 30 oz.	2
12	11001	NULL	NULL	NULL	708	Sport-100 Helmet, Black	1
13	11001	NULL	NULL	NULL	712	AWC Logo Cap	1
14	11001	NULL	NULL	NULL	777	Mountain-100 Black, 44	1
15	11001	NULL	NULL	NULL	779	Mountain-200 Silver, 38	1
16	11001	NULL	NULL	NULL	871	Mountain Bottle Cage	1
17	11001	NULL	NULL	NULL	872	Road Bottle Cage	1
18	11001	NULL	NULL	NULL	878	Fender Set - Mountain	1
19	11001	NULL	NULL	NULL	884	Short-Sleeve Classic Jersey,...	1
20	11001	NULL	NULL	NULL	997	Road-750 Black, 44	1
21	11002	26898,0429	9	4,5269	NULL	NULL	NULL

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```
--procedure/ list of products, average quantity and value of product ordered, which customer ordered the most (value, number of orders)
```

```
CREATE PROCEDURE dbo.StatystykaProduktow
```

```
197
198   --EXEC dbo.StatisticsOfProducts '20140301','20140630' --procedure test
```

107 %

Results | Messages

	ProductID	ProductName	AverageNumberOfOrders for Product	AverageOrderValue for Product	CustomerID	OrderQty(per order)	OrderQty(number of OrderQty)
1	707	Sport-100 Helmet, Red	1	44,3135	NULL	NULL	NULL
2	707	NULL	NULL	NULL	29489	15	1
3	707	NULL	NULL	NULL	29722	14	1
4	707	NULL	NULL	NULL	29783	14	1
5	707	NULL	NULL	NULL	29563	13	1
6	707	NULL	NULL	NULL	29587	13	1
7	707	NULL	NULL	NULL	30048	13	1
8	707	NULL	NULL	NULL	30107	12	1
9	707	NULL	NULL	NULL	29625	11	1
10	707	NULL	NULL	NULL	29658	11	1
11	707	NULL	NULL	NULL	29744	11	1
12	707	NULL	NULL	NULL	29579	10	1
13	707	NULL	NULL	NULL	29608	10	1
14	707	NULL	NULL	NULL	29643	10	1
15	707	NULL	NULL	NULL	29704	10	1
16	707	NULL	NULL	NULL	29725	10	1
17	707	NULL	NULL	NULL	29736	10	1
18	707	NULL	NULL	NULL	29786	10	1
19	707	NULL	NULL	NULL	29795	10	1
20	707	NULL	NULL	NULL	29957	10	1
21	707	NULL	NULL	NULL	30043	10	1
22	707	NULL	NULL	NULL	29641	9	1