**SELECT** \* **FROM** sys.superstoredata;

#1. Find out the Total Average Revenue per Customer and the Total Average Revenue per Product for the year 2017. (Return values in 2 decimal places)

**SELECT**

(**SELECT** **ROUND**(**SUM**(Sales)/**COUNT**(**DISTINCT** Customer\_ID),2) **FROM** superstoredata **where** **year**(ship\_date) = 2017) **AS** Avg\_rev\_per\_customer,

(**SELECT** **ROUND**(**SUM**(sales)/**COUNT**(**DISTINCT** Product\_ID), 2) **FROM** superstoredata **WHERE** **YEAR**(ship\_date) = 2017) **AS** Avg\_rev\_per\_product

**FROM** superstoredata

**LIMIT** 1;

#2. Give a list of all products that generated revenue below the Total Average Revenue per Product (TAR/P) in 2017(Showing the least revenues first)

**SELECT** product\_id, product\_name, **ROUND**(**SUM**(sales), 2) **AS** Revenue **FROM** superstoredata **WHERE** **YEAR** (Ship\_Date) = 2017

**GROUP** **BY** Product\_ID , Product\_Name

**HAVING** **ROUND**(**SUM**(Sales), 2) < (**SELECT** **ROUND** (**SUM**(Sales)/**COUNT**(**DISTINCT** Product\_ID), 2) **FROM** superstoredata

**WHERE** **YEAR**(Ship\_Date) = 2017) **ORDER** **BY** Revenue;

#2b. Find out the number of products that fall below the TAR/P under each category per region.

**WITH** TAR\_per\_product **AS** (

**SELECT**

Category,

Region,

Product\_ID,

**ROUND**(**SUM**(Sales) / **COUNT**(**DISTINCT** Product\_ID), 2) **AS** TAR\_per\_product

**FROM**

superstoredata

**WHERE**

**YEAR**(Order\_Date) = 2017

**GROUP** **BY**

Category, Region, Product\_ID

)

**SELECT**

sd.Region,

**SUM**(**CASE** **WHEN** sd.Category = 'Office Supplies' **AND** sd.Sales < tar.TAR\_per\_product **THEN** 1 **ELSE** 0 **END**) **AS** Office\_Supplies,

**SUM**(**CASE** **WHEN** sd.Category = 'Furniture' **AND** sd.Sales < tar.TAR\_per\_product **THEN** 1 **ELSE** 0 **END**) **AS** Furniture,

**SUM**(**CASE** **WHEN** sd.Category = 'Technology' **AND** sd.Sales < tar.TAR\_per\_product **THEN** 1 **ELSE** 0 **END**) **AS** Technology

**FROM**

superstoredata sd

**JOIN**

TAR\_per\_product tar **ON** sd.Category = tar.Category **AND** sd.Region = tar.Region **AND** sd.Product\_ID = tar.Product\_ID

**WHERE**

**YEAR**(sd.Order\_Date) = 2017

**GROUP** **BY**

sd.Region;

#3. Find out the Y-O-Y growth rate from 2014 – 2017. (Your answer should be rounded to 3 decimal places, and show the “%” sign)

**SELECT**

**CONCAT**(**ROUND**((**SUM**(**CASE** **WHEN** **YEAR**(ship\_date) = 2015 **THEN** Sales **ELSE** 0 **END**) /

**SUM**(**CASE** **WHEN** **YEAR**(ship\_date) = 2014 **THEN** Sales **ELSE** 0 **END**) - 1) \* 100, 3), '%') **AS** YOY\_2015,

**CONCAT**(**ROUND**((**SUM**(**CASE** **WHEN** **YEAR**(ship\_date) = 2016 **THEN** Sales **ELSE** 0 **END**) /

**SUM**(**CASE** **WHEN** **YEAR**(ship\_date) = 2015 **THEN** Sales **ELSE** 0 **END**) - 1) \* 100, 3), '%') **AS** YOY\_2016,

**CONCAT**(**ROUND**((**SUM**(**CASE** **WHEN** **YEAR**(ship\_date) = 2017 **THEN** Sales **ELSE** 0 **END**) /

**SUM**(**CASE** **WHEN** **YEAR**(ship\_date) = 2016 **THEN** Sales **ELSE** 0 **END**) - 1) \* 100, 3), '%') **AS** YOY\_2017

**FROM**

superstoredata

**WHERE**

**YEAR**(ship\_date) **BETWEEN** 2014 **AND** 2017;

#4. Return a table that shows the Total Revenue against the Total Cost of goods sold (COGS) for each region and in each year (2014 – 2017)

**SELECT**

**YEAR**(ship\_date) **AS** **Year**,

**SUM**(**CASE** **WHEN** Region = 'East' **THEN** Sales **ELSE** 0 **END**) **AS** Rev\_East,

**SUM**(**CASE** **WHEN** Region = 'East' **THEN** Sales - Profit **ELSE** 0 **END**) **AS** COGS\_East,

**SUM**(**CASE** **WHEN** Region = 'West' **THEN** Sales **ELSE** 0 **END**) **AS** Rev\_West,

**SUM**(**CASE** **WHEN** Region = 'West' **THEN** Sales - Profit **ELSE** 0 **END**) **AS** COGS\_West,

**SUM**(**CASE** **WHEN** Region = 'South' **THEN** Sales **ELSE** 0 **END**) **AS** Rev\_South,

**SUM**(**CASE** **WHEN** Region = 'South' **THEN** Sales - Profit **ELSE** 0 **END**) **AS** COGS\_South,

**SUM**(**CASE** **WHEN** Region = 'Central' **THEN** Sales **ELSE** 0 **END**) **AS** Rev\_Central,

**SUM**(**CASE** **WHEN** Region = 'Central' **THEN** Sales - Profit **ELSE** 0 **END**) **AS** COGS\_Central

**FROM**

superstoredata

**WHERE**

**YEAR**(ship\_date) **BETWEEN** 2014 **AND** 2017

**GROUP** **BY**

**YEAR**(ship\_date);

#5.Return a table that shows the Profit generated per state, then per region in 2018 alone.

**SELECT**

State,

**SUM**(**CASE** **WHEN** sd.Region = 'South' **THEN** profit **ELSE** 0 **END**) **AS** South,

**SUM**(**CASE** **WHEN** sd.Region = 'East' **THEN** profit **ELSE** 0 **END**) **AS** East,

**SUM**(**CASE** **WHEN** sd.Region = 'Central' **THEN** profit **ELSE** 0 **END**) **AS** Central,

**SUM**(**CASE** **WHEN** sd.Region = 'West' **THEN** profit **ELSE** 0 **END**) **AS** West

**FROM**

superstoredata sd

**WHERE**

**YEAR**(Ship\_Date) = 2018

**group** **by** State;

#6.Return a table that shows the total number of orders received on each day of the week for year 2014, 2015, 2016 and 2017.

**SELECT**

Day\_Of\_Week,

**SUM**(**YEAR**(Order\_Date) = 2014) **AS** Order\_2014,

**SUM**(**YEAR**(Order\_Date) = 2015) **AS** Order\_2015,

**SUM**(**YEAR**(Order\_Date) = 2016) **AS** Order\_2016,

**SUM**(**YEAR**(Order\_Date) = 2017) **AS** Order\_2017

**FROM**

(**SELECT**

**DAYNAME**(Order\_Date) **AS** Day\_Of\_Week,

Order\_Date

**FROM**

superstoredata

**WHERE**

**YEAR**(Order\_Date) **BETWEEN** 2014 **AND** 2017) **AS** subquery

**GROUP** **BY**

Day\_Of\_Week

**ORDER** **BY**

**CASE** Day\_Of\_Week

**WHEN** 'Sunday' **THEN** 1

**WHEN** 'Monday' **THEN** 2

**WHEN** 'Tuesday' **THEN** 3

**WHEN** 'Wednesday' **THEN** 4

**WHEN** 'Thursday' **THEN** 5

**WHEN** 'Friday' **THEN** 6

**WHEN** 'Saturday' **THEN** 7

**END**;