* **Creating sales\_data\_sample table:**

create database Sales\_Project;

use Sales\_Project;

select \* from sales\_data\_sample;

drop table sales\_data\_sample;

select \* from sales\_data\_sample.csv;

CREATE TABLE sales\_data1 ( `ORDERNUMBER` int DEFAULT NULL, `QUANTITYORDERED` int DEFAULT NULL, `PRICEEACH` double DEFAULT NULL, `ORDERLINENUMBER` int DEFAULT NULL, `SALES` double DEFAULT NULL, `ORDERDATE` text, `STATUS` text, `QTR\_ID` int DEFAULT NULL, `MONTH\_ID` int DEFAULT NULL, `YEAR\_ID` int DEFAULT NULL, `PRODUCTLINE` text, `MSRP` int DEFAULT NULL, `PRODUCTCODE` text, `CUSTOMERNAME` text, `PHONE` text, `ADDRESSLINE1` text, `ADDRESSLINE2` text, `CITY` text, `STATE` text, `POSTALCODE` text, `COUNTRY` text, `TERRITORY` text, `CONTACTLASTNAME` text, `CONTACTFIRSTNAME` text, `DEALSIZE` text) ;

select \* from sales\_data;

drop table sales\_data\_sample.csv;

select \* from sales\_data\_sample;

* **inspecting Data**

select \* from sales\_data\_sample;

**-- checking unique data**

select distinct STATUS from sales\_data\_sample; -**- Nice to plot**

select distinct YEAR\_ID from sales\_data\_sample;

select distinct PRODUCTLINE from sales\_data\_sample; **-- Nice to plot**

select distinct COUNTRY from sales\_data\_sample; -- **Nice to plot**

select distinct DEALSIZE from sales\_data\_sample; -- **Nice to plot**

select distinct TERRITORY from sales\_data\_sample; -- **Nice to plot**

* **Analysis - Staring from grouping productline.**

SELECT PRODUCTLINE, ROUND(SUM(SALES), 2) AS Revenue FROM sales\_data\_sample

GROUP BY PRODUCTLINE ORDER BY Revenue DESC; -- **Classic Cars has highest Revenue**

* **Analysis - Staring from grouping year\_id**

SELECT YEAR\_ID, ROUND(SUM(SALES), 2) AS Revenue FROM sales\_data\_sample GROUP BY YEAR\_ID ORDER BY Revenue DESC; **-- 2004 has highest Revenue**

* **Checking no. of month in a year 2003,2004 & 2005**

select distinct MONTH\_ID from sales\_data\_sample where YEAR\_ID=2005 order by MONTH\_ID; **-- 5 months**

select distinct MONTH\_ID from sales\_data\_sample where YEAR\_ID=2004 order by MONTH\_ID **; -- 12 months**

select distinct MONTH\_ID from sales\_data\_sample where YEAR\_ID=2003 order by MONTH\_ID; **-- 12 months**

* **Analysis - Staring from Dealsize**

select DEALSIZE , sum(SALES) as Revenue from sales\_data\_sample group by DEALSIZE; **-- Medium has highest Revenue**

* **Which is best month sales for sales in a specific year? How much was earned**.

**-- 2003**

SELECT MONTH\_ID,round(SUM(SALES),2) AS revenue, count(ORDERNUMBER) AS frequency FROM sales\_data\_sample WHERE YEAR\_ID = 2003 GROUP BY MONTH\_ID order by Revenue Desc; **--- Revenue of 1029837.66 in November 2003**

* **Which Productcontributed to sales revenue.**

Select MONTH\_ID,PRODUCTLINE, round(SUM(SALES),2) AS revenue, count(ORDERNUMBER) AS frequency FROM sales\_data\_sample WHERE MONTH\_ID = 11 and YEAR\_ID = 2003 GROUP BY MONTH\_ID , PRODUCTLINE order by Revenue Desc;

**--- Ans: Classic Cars contributed towards more Revenue of 452924.37 in November 2003**

**-- 2004**

SELECT MONTH\_ID,round(SUM(SALES),2) AS revenue, count(ORDERNUMBER) AS frequency FROM sales\_data\_sample WHERE YEAR\_ID = 2004 GROUP BY MONTH\_ID order by Revenue Desc;--**- Revenue of 1089048.01 in November 2004**

* **Which Product contributed to sales revenue**.

Select MONTH\_ID,PRODUCTLINE, round(SUM(SALES),2) AS revenue, count(ORDERNUMBER) AS frequency FROM sales\_data\_sample WHERE MONTH\_ID = 11 and YEAR\_ID = 2004 GROUP BY MONTH\_ID , PRODUCTLINE order by Revenue Desc;

--- **Ans: Classic Cars contributed towards more Revenue of 372231.89 in November 2004**

**-- 2005**

SELECT MONTH\_ID,round(SUM(SALES),2) AS revenue, count(ORDERNUMBER) AS frequency FROM sales\_data\_sample WHERE YEAR\_ID = 2005 GROUP BY MONTH\_ID order by Revenue Desc;--- **Revenue of 457861.06 in May 2005**

* **Which Product contributed to sales revenue**.

Select MONTH\_ID,PRODUCTLINE, round(SUM(SALES),2) AS revenue, count(ORDERNUMBER) AS frequency FROM sales\_data\_sample WHERE MONTH\_ID = 5 and YEAR\_ID = 2005 GROUP BY MONTH\_ID , PRODUCTLINE order by Revenue Desc;

--- **Ans: Classic Cars contributed towards more Revenue of 184385.11 in May 2005**

* **Who is our best customer? ( RFM analysis)**

select max(ORDERDATE) from sales\_data\_sample\_new;

**-- Changing Data type for order date column**

alter table sales\_data\_sample\_new modify ORDERDATE DATETIME ;

select CUSTOMERNAME,sum(SALES) as Total\_Monetary\_value, count(ORDERNUMBER) as Frequency, max(ORDERDATE) as Last\_order, (select max(ORDERDATE) from sales\_data\_sample\_new) as max\_order\_date ,datediff(max(ORDERDATE),(select max(ORDERDATE) from sales\_data\_sample\_new)) as recency from sales\_data\_sample\_new group by CUSTOMERNAME ORDER BY recency;

* **Seggregating 4 equal parts of table**

with rfm as(select CUSTOMERNAME,sum(SALES) as Total\_Monetary\_value, ROUND(AVG(SALES),2) AS AVGSALES, count(ORDERNUMBER) as Frequency, max(ORDERDATE) as Last\_order, (select max(ORDERDATE) from sales\_data\_sample\_new) as max\_order\_date ,datediff((select max(ORDERDATE) from sales\_data\_sample\_new),max(ORDERDATE)) as recency from sales\_data\_sample\_new group by CUSTOMERNAME order by recency desc),

rfm\_calc as(select r.\*,

ntile(4) over (order by recency desc) as rfm\_recency,

ntile(4) over (order by AVGSALES ) as rfm\_Monetary\_value,

ntile(4) over (order by Frequency) as rfm\_freqency from rfm r ORDER BY Frequency Desc),

new\_table as ( select c.\*, c.rfm\_recency + c.rfm\_freqency + c.rfm\_Monetary\_value as cell\_rfm

from rfm\_calc c) select \* from new\_table n;

select \* from new\_table1 ;

Select \* , Concat(rfm\_recency , rfm\_freqency , rfm\_Monetary\_value) as sum\_rfm from new\_table1 order by recency Desc;

select \* from rfm;

select sum\_rfm ,count(\*) as a from rfm group by sum\_rfm order by a desc ;

select \* from rfm where sum\_rfm = 113 ;

select \*,

rank() over (order by Total\_Monetary\_value) as rank\_monetary,

rank() over (order by Frequency) as rank\_Frequency,

rank() over (order by recency) as rank\_recency

from rfm;

SELECT CUSTOMERNAME, Total\_Monetary\_value, AVGSALES, Frequency, Last\_order, max\_order\_date, recency, rank\_recency, rank\_Frequency, rank\_monetary,

CASE WHEN rank\_recency <= 23 THEN 1

WHEN rank\_recency <= 46 THEN 2

WHEN rank\_recency <= 69 THEN 3

WHEN rank\_recency <= 92 THEN 4

END AS N\_recency,

CASE

WHEN rank\_Frequency <= 23 THEN 1

WHEN rank\_Frequency <= 46 THEN 2

WHEN rank\_Frequency <= 69 THEN 3

WHEN rank\_Frequency <= 92 THEN 4

END AS N\_Frequency,

CASE

WHEN rank\_monetary <= 23 THEN 1

WHEN rank\_monetary <= 46 THEN 2

WHEN rank\_monetary <= 69 THEN 3

WHEN rank\_monetary <= 92 THEN 4

END AS N\_monetary

FROM

rfm\_new;

select \* , concat(N\_recency,N\_Frequency,N\_monetary) as sum\_rfm from rfm\_newmy1;

select distinct sum\_rfm from Sum\_rfm order by sum\_rfm;

* **Segregatin the date into 4 columns as follows:**

**-- 'New Customer', 'Active/Loyal Customer' , 'Slipping Away Customer', 'Lost/Potential Churners Customer'**.

select CUSTOMERNAME,

case when sum\_rfm in (112,211,121) then 'New Customer'

when sum\_rfm in (144,143,134,133,244,243,233,232,122,123) then 'Active/Loyal Customer'

when sum\_rfm in (222,311,312,223,334,321,322,323,333,344) then 'Slipping Away Customer'

when sum\_rfm in (411,444,412,421,422,423,433) then 'Lost/Potential Churners Customer'

end as Customer\_clasiffication

from Sum\_rfm;

* **Which product is sold oftenly?**

select \* from sales\_data\_sample;

select ORDERNUMBER, count(\*) as sc from sales\_data\_sample where STATUS = 'Shipped' group by ORDERNUMBER order by sc desc ;

select distinct PRODUCTCODE, PRODUCTLINE from sales\_data\_sample where ORDERNUMBER in (select ORDERNUMBER from (select ORDERNUMBER, count(\*) as sc from sales\_data\_sample where STATUS = 'Shipped' group by ORDERNUMBER order by sc desc)a where sc=18) ;