SQL Server Workshop

## Pre-Requisites:

* AdventureWorks database in OTBSQLSERVER; Use Windows Authentication to connect

## Day 2

1. Display the details of all the Customers.
2. Display the ID, type, number, and expiry year of all the credit cards in the following format.

|  |  |  |  |
| --- | --- | --- | --- |
| ***Credit Card ID*** | ***Credit Card Type*** | ***Credit Card Number*** | ***Expiry Year*** |
|  |  |  |  |

1. Display the customer ID and the account number of all the customers who live in the Territory ID 4.
2. Display all the details of the sales orders that have a cost exceeding $2,000.
3. Display the sales order details of the product named 'Cable Lock'. *Hint: The Product ID for Cable Lock is 843.*
4. Display the list of all the orders placed on June 06, 2004.
5. Display a report of all the orders in the following format.

|  |  |  |  |
| --- | --- | --- | --- |
| ***Order Id*** | ***Order Quantity*** | ***Unit Price*** | ***Total Cost*** |
|  |  |  |  |

Hint: Total Cost = Order Quantity \* Unit Price

1. Display a list of all the sales orders in the price range of $2,000 to $2,100.
2. Display the name, country region code, and sales year to date for the territory with Territory ID as 1.
3. Display the details of the orders that have a tax amount of more than $10,000.
4. Display the sales territory details of Canada, France, and Germany.
5. Generate a report that contains the IDs of sales persons living in the territory with Territory ID as 2 OR 4. The report is required in the following format.

|  |  |
| --- | --- |
| ***Sales Person ID*** | ***Territory ID*** |
|  |  |

1. Display the details of the Vista credit cards that are expiring in the year 2006.
2. Display the details of all the orders that were shipped after July 12, 2004.
3. Write a query to display the sales order ID, territory ID, month, and year of order in the following format.

|  |  |  |  |
| --- | --- | --- | --- |
| ***Sales Order ID*** | ***Territory Name*** | ***Month*** | ***Year*** |
|  |  |  |  |

## Day 3

1. Display the orders placed on July 01, 2001 that have a total cost of more than $10,000 in the following format.

|  |  |  |  |
| --- | --- | --- | --- |
| ***Order Number*** | ***Order Date*** | ***Status*** | ***Total Cost*** |
|  |  |  |  |

1. Display the details of the orders that have been placed by customers online.
2. Display the order ID and the total amount due of all the sales orders in the following format. Ensure that the order with the highest price is at the top of the list.

|  |  |
| --- | --- |
| ***Order Date*** | ***Total Due*** |
|  |  |

1. Display the order ID and the tax amount for the sales orders that are less than $2,000. The data should be displayed in the ascending order.
2. Display the order number and the total value of the order in ascending order of the total value.
3. Display the maximum, minimum, and the average rate of sales orders.
4. Display the total value of all the orders put together.
5. Display the Order ID of the top five orders based on the total amount due in the year 2001.
6. Display the details of all the currencies that have the word 'Dollar' in their name.
7. Display all territories whose names begin with 'N'.
8. Display the SalesPersonID, the TerritoryID, and the sales quota for those sales persons who have been assigned a sales quota. The data should be displayed in the following format.

|  |  |  |
| --- | --- | --- |
| ***Sales Person ID*** | ***Territory ID*** | ***Sales Quota*** |
|  |  |  |

1. What will be the output of the following code written to display the total order value for each order?

SELECT SalesOrderID, ProductID, sum (LineTotal) FROM

Sales.SalesOrderDetail GROUP BY SalesOrderID

1. You can place an order for more than one product. Display a report containing the product ID and the total cost of products for the product ID whose total cost is more than $10000.
2. The following SQL query containing the COMPUTE BY clause generates errors. What are possible causes of such errors?

SELECT ProductID, LineTotal AS 'Total' FROM Sales.SalesOrderDetail

COMPUTE sum (LineTotal) BY ProductID.

## Day 4

1. Display the top three sales persons based on the (highest) bonus.
2. Display the details of those stores, which have Bike in their name.
3. Display the total amount collected from the orders by order date.
4. Display the total unit price and the total amount collected after selling the products, 774 and 777. In addition, calculate the total amount collected from these two products.
5. Display the sales order ID and the maximum and minimum values of the order based on the sales order ID. In addition, ensure that the order amount is greater than $5,000.
6. A report containing the sales order ID and the average value of the total amount, which is greater than $5,000, is required in the following format.

|  |  |
| --- | --- |
| ***Sales Order ID*** | ***Average Value*** |
|  |  |

1. Display the different types of credit cards used for purchasing products.
2. Display the customer ID, name, and sales person ID for all the stores. According to the requirement, only first 15 letters of the customer name should be displayed.
3. Display all orders in the following format.

|  |  |  |  |
| --- | --- | --- | --- |
| ***Order Number*** | ***Total due*** | ***Day Of Order*** | ***Week Day*** |
|  |  |  |  |

1. Display SalesOrderID, OrderQty, and UnitPrice from the SalesOrderDetail table where a similar unit price needs to be marked with an identical value.
2. Display the EmployeeID and the HireDate of the employees from the Employee table. The month and the year need to be displayed.
3. Write a query to find all the people in the Person.Contact table with three-letter last names ending with ‘an’.
4. Write a query to calculate the average vacation hours and the sum of sick leave hours of the employees who work as Production Technician.
5. Write a query to find the number of different titles that an employee who works at AdventureWorks can hold.
6. Write a query to display all the sales persons and name of the territories to which they belong.
7. Write a query to display the sales order ID, the product ID, and order date for all products in the following format.

|  |  |  |
| --- | --- | --- |
| ***Order ID*** | ***Product ID*** | ***Order Date*** |
|  |  |  |

1. Write a query to display the sales person ID and territory names for all sales persons. If a sales person does not belong to any territory, NULL should be displayed.

|  |  |
| --- | --- |
| ***Sales Person ID*** | ***Territory Name*** |
| ***268*** | ***NULL*** |
| ***275*** | ***Northeast*** |

1. Write a query to display the total amount due of all the sales orders rounded off to a whole number. In addition, display the sales order ID and the type of credit card through which the payment was made.
2. Write a query to display the order date along with the sales order ID and territory name. The order date should be displayed in the dd/mm/yyyy format.
3. Write a query to display the order ID and the territory name of the orders where the month of order is May and year is 2004.
4. Write a query to retrieve the details of the product locations where cost rate is greater than 12. In addition, the locations need to be grouped into three groups, and then ranked based on the cost rate in descending order.
5. Display all female employee names and their manager name. Even if an employee does not have a manger, those employee name should appear in the result
6. Display all single male employees and their address (including state name, country name) who were born before the year : 1980
7. Which manager (name) has the most number of employees working under him/her?
8. Which manager (name) has the most number of female employees working under him/her?
9. Display the number of employees by each state (state name) – based on their address.
10. Find the second highest salaried employee per their current rate. Hint: Use CTE for finding the latest rate per employee
11. Display the following details assuming all employees worked 7 days a week and 8 hrs per day: Employee ID, Employee Name, Total Salary drawn till date. Hint : Use CTE / Correlated sub query

## Day 5

1. Create a table as ProductMaster as follows.
   1. ProductID auto increament from 200 onwards.
   2. ProductName string type max 20.
   3. QtyinStock integer type default 1.
   4. ProductPrice numeric
   5. AvailableCity string type max 20 and should be only in these cities Chicago, California, Detroit,Washington.

53. Create a table as SalesMaster as follows.

a. ProductID set as Foreign Key

b. SalesID primary key numeric

c. Orderdate date datatype

d. City string type

e. issuedate date datatype

1. . Alter the above table and add these features.
   1. Add a new column as ProductDescription string type.
   2. Rename the column as AvailableRegion from AvailableCity .
2. Create a view which displays Employee names and addresses with following columns
   * EmployeeID
   * Title
   * FirstName
   * MiddleName
   * LastName
   * Suffix
   * JobTitle
   * Phone
   * EmailAddress
   * EmailPromotion
   * AddressLine1
   * AddressLine2
   * City
   * StateProvinceName
   * PostalCode
   * CountryRegionName
   * AdditionalContactInfo
3. Create a view which displays employee name, title, and current department and other columns as below
   * EmployeeID
   * Title
   * FirstName
   * MiddleName
   * LastName
   * Suffix
   * JobTitle
   * Department Name
   * GroupName Name
   * StartDate
4. Create a batch that finds the average pay rate (latest) of the employees and then lists the details of employees who have a pay rate less than the average pay rate.
5. Create a batch that displays all the employee details where for the ‘Marital Status’ column it should display “Married’ for ‘M’ and ‘Single’ for ‘S’ and others as ‘Unknown’.

## Day 6

1. Create a function that returns the shipment date of a particular order.
2. Create a function that returns the credit card number for a particular order.
3. Create a function that returns a table containing the ID and the name of the customers who are categorized as individual customers (CustomerType = 'I'). The function will take one parameter. The parameter value can be either Shortname or Longname. If the parameter value is Shortname, only the last name of the customer will be retrieved. If the value is Longname, then the full name will be retrieved.
4. Write a procedure to display all the employee details along with the department details to they belong based on the employee designation entered by the user.

## Day 7

1. Using serializable isolation level, write a query to display AddressTypeID and Name where AddressTypeID is between 1 and 6
2. Write a batch query to update the email id as test@sample.com in the Person.Contact table for the employee with contact id 1080 and update the address id =32456 in the HumanResources.EmployeeAddress table for employee with EmployeeID 1 and during the update you need to ensure that both the update statements should execute successfully or none of them should execute. In addition if during the update operation any error comes then the complete batch should be cancelled and when this transaction is going on no other users should be allowed to perform any operation against the above tables not even read should be allowed.
3. Write a query that deletes a job candidate whose ID is 13.
4. Set Transaction level isolation to snapshot and begin the transaction. Update the column “ModifiedDate” to today’s date.
5. The management of AdventureWorks, Inc. has decided that no user should be able to change the prices of the products. In addition, management wants that all the attempts to change the price should be saved in a temporary table, Temp. John, the database developer has been asked to make the significant changes in the database to implement this policy. What can John do to achieve the same?
6. The management of AdventureWorks, Inc. wants that whenever the pay rate of an employee is modified, its effect on the monthly salary of the employee should be displayed. John, a database developer at AdventureWorks, has been asked to resolve this problem. Help John to find out appropriate solution.
7. Write a trigger to display the magic tables (Inserted and Deleted) data during a trigger execution.
8. Write a query to retrieve the list price of the products where the product price is between $ 360.00 and $ 499.00 and display the price in the following format. The list price of “Product Name” is “Price”