#A

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| 1. List of tables present in the database. |
| **Query:**  select \* from all\_tables; |
| **Screenshot:** |

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| 1. List of tables and corresponding columns |
| **Query:**  select \* from all\_tab\_columns where owner = 'NORTHWIND'; |
| **Screenshot:** |

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| 1. List of all constraints against their tables. |
| **Query:**  select \* from all\_constraints; |
| **Screenshot:**     1. Catalogs:   **Query:**  (run individuallly)  desc northwind.categories;  desc northwind.customers;  desc northwind.employees;  desc northwind.orders;  desc northwind.order\_details;  desc northwind.products;  desc northwind.shippers;  desc northwind.suppliers;  **Screenshot:** |

#B

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| 1. How many shippers are available |
| **Query:**  select count(\*) from northwind.shippers; |
| **Screenshot:** |

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| **2.** Display FirstName, LastName, and HireDate of all the employees with the Title of Sales Representative in **usa** |
| **Query:**  select firstname, lastname, hiredate from northwind.employees where title = 'Sales Representative' and country = 'USA'; |
| **Screenshot:** |

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| **3.** Show all the orders placed by employee Steven Buchanan |
| **Query:**  select \* from northwind.orders where employee\_id = (select employee\_id from northwind.employees where firstname = 'Steven' and lastname = 'Buchanan'); |
| **Screenshot:** |

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| **4.** show the SupplierID, ContactName, and ContactTitle for those Suppliers whose ContactTitle is not Marketing Manager |
| **Query:**  select supplier\_id, contact\_name, contact\_title from northwind.suppliers where contact\_title != 'Marketing Manager'; |
| **Screenshot:** |

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| **5.** Display ProductID and ProductName for those products where the ProductName includes the string 'queso'. |
| **Query:**  select product\_id, product\_name from northwind.products where product\_name like '%Queso%' or product\_name like '%queso%'; |
| **Screenshot:** |

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| **6.** List all OrderID,CustomerID, and ShipCountry for the orders shipped to France, Belgium and Latin American country Hint: Brazil Mexico Argentina Venezuela are latin american countries |
| **Query:**  select order\_id, customer\_id, ship\_country from northwind.orders where ship\_country in ('France', 'Belgium', 'Brazil', 'Mexico', 'Argentina', 'Venezuela'); |
| **Screenshot:** |

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| **7.** Display all the employees in the Employees table, show the FirstName, LastName, Title, and BirthDate. Order the results by BirthDate, so we have the oldest employees first. |
| **Query:**  select firstname, lastname, title, birthdate from northwind.employees order by birthdate; |
| **Screenshot:** |

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| **8 .** Display all the employees in the Employees table, show the FirstName, LastName, Title, and BirthDate. Order the results by BirthDate, so we have the Employees in order of BirthDate. Note: You should ignore time during sorting |
| **Query:**  select firstname, lastname, title, birthdate from northwind.employees order by birthdate; |
| **Screenshot:** |

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| **9.** Using OrderDetails table, calculateTotalPrice, that multiplies unit price and quantity and once done show the OrderID, ProductID, UnitPrice, and Quantity Order by OrderID and ProductID |
| **Query:**  select order\_id, product\_id, unit\_price, quantity, (unit\_price\*quantity) as total\_price from northwind.order\_details order by order\_id, product\_id; |
| **Screenshot:** |

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| **10.** How many customers are there? Ans should be 91 |
| **Query:**  select count(\*) from northwind.customers; |
| **Screenshot:** |

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| **11.** When was the first order placed (Date and time in AM/PM format)? |
| **Query:**  select distinct(to\_char(order\_date, 'DD-MM-YY HH.MI.SS PM')) as order\_date\_new\_format from northwind.orders order by order\_date fetch first 1 rows only; |
| **Screenshot:** |

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| **12.** Show list of all countries and total counrt where there are customers for this company Note: You can write 2 seprate queries to get the answer |
| **Query:**  select distinct(country) from northwind.customers;  select country, count(\*) as count\_of\_customers from northwind.customers group by country; |
| **Screenshots:** |

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| **13.** list all the different values in the Customers table for ContactTitles additionally include count for each ContactTitle |
| **Query:**  select contact\_title, count(\*) from northwind.customers group by contact\_title; |
| **Screenshot:** |

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| **14.** Display for each product, the associated Supplier.  Show the ProductID, ProductName, and the CompanyName of the Supplier.  Finally Sort data by ProductID. |
| **Query:**  select products.product\_id, products.product\_name, suppliers.company\_name from northwind.suppliers inner join northwind.products  on suppliers.supplier\_id = products.supplier\_id  order by product\_id; |
| **Screenshot:** |

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| **15.** Generate list of the Orders that were made, including the Shipper that was used. Show the OrderID, OrderDate (date only), and CompanyName of the Shipper, and sort by OrderID. Note: show only those records with an OrderID less than 10300. |
| **Query:**  select orders.order\_id, orders.order\_date, shippers.company\_name from northwind.orders inner join northwind.shippers on orders.ship\_via = shippers.shipper\_id where order\_id < '10300' order by order\_id; |
| **Screenshot:** |

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| **16.** Show total products in each category |
| **Query:**  select categories.category\_name, count(\*) from northwind.categories inner join northwind.products on categories.category\_id = products.category\_id group by category\_name order by category\_name; |
| **Screenshot:** |

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| **17.** Display total number of customers per Country and City. |
| **Query:**  select country, count(\*) from northwind.customers group by country order by country;  select city, count(\*) from northwind.customers group by city order by city; |
| **Screenshots:** |

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| **18. 5 Marks question** What products are available in inventory that needs to be reordered? Order the results by ProductID **Hint**: use UnitsInStock and ReorderLevel, where UnitsInStock is less than the ReorderLevel and ignoring UnitsOnOrder and Discontinued columns |
| **Query:**  select \* from northwind.products where units\_in\_stock < reorder\_level order by product\_id; |
| **Screenshot:** |

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| **19.** Sales team would like to see list of all customers, sorted by region, alphabetically. However, they want the customers with no region to be at the end of the report and Within the same region, companies should be sorted by CustomerID |
| **Query:**  select \* from northwind.customers order by region, customer\_id; |
| **Screenshot:** |

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| **20.** Display the three ship countries with the highest average freight charges (overall) in descending order by average freight.  Note: Output should display country name and average freight cost |
| **Query:**  select ship\_country, average\_freight\_price from  (select ship\_country, avg(freight) as average\_freight\_price from northwind.orders group by ship\_country order by average\_freight\_price desc)  where average\_freight\_price in  (select distinct(avg(freight)) as avg\_freight from northwind.orders group by ship\_country order by avg\_freight desc fetch first 3 rows only); |
| **Screenshot:** |

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| **21.** in continueation to question 20, we need orders from the year 2015 onwards |
| **Query:**  select ship\_country, average\_freight\_price from  (select ship\_country, avg(freight) as average\_freight\_price from (select \* from northwind.orders where order\_date > '1-1-2015' order by order\_date)  group by ship\_country order by average\_freight\_price desc)  where average\_freight\_price in  (select distinct(avg(freight)) as avg\_freight from (select \* from northwind.orders where order\_date > '1-1-2015' order by order\_date)  group by ship\_country order by avg\_freight desc fetch first 3 rows only); |
| **Screenshot:** |

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| **22.** Find the top 3 High freight charges for orders made in year 2015 |
| **Query:**  select ship\_country, average\_freight\_price from  (select distinct(freight) from (select \* from northwind.orders where order\_date between '1-1-2015' and '31-12-2015' order by order\_date) order by freight desc fetch first 3 rows only; |
| **Screenshot:** |

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| **23.** Find the top 5 countries with High freight charges for orders made in last 12 months  **Note**: Take the latest order date and from that point navigate back to 12 months |
| **Query:**  select ship\_country from    (select ship\_country, sum(freight) as sum\_freight\_price from (select \* from northwind.orders where order\_date  between  (select order\_date from northwind.orders order by order\_date desc fetch first 1 rows only) -365  and  (select order\_date from northwind.orders order by order\_date desc fetch first 1 rows only)  order by order\_date)  group by ship\_country order by sum\_freight\_price desc)    where sum\_freight\_price in  (  select distinct(sum(freight)) as sum\_freight from (select \* from northwind.orders where order\_date  between  (select order\_date from northwind.orders order by order\_date desc fetch first 1 rows only) -365  and  (select order\_date from northwind.orders order by order\_date desc fetch first 1 rows only)  order by order\_date)  group by ship\_country order by sum\_freight desc fetch first 5 rows only  ); |
| **Screenshot:** |

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| **24.** Display Employee ID, lastname, order id, product name, quantity for all orders sorted by OrderID and Product ID. |
| **Query:**  select employees.employee\_id, employees.lastname, orders.order\_id, products.product\_id, products.product\_name, order\_details.quantity  from northwind.employees  inner join northwind.orders on employees.employee\_id = orders.employee\_id  inner join northwind.order\_details on order\_details.order\_id = orders.order\_id  inner join northwind.products on products.product\_id = order\_details.product\_id  order by order\_id, product\_id; |
| **Screenshot:** |

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| **25.** List all the customers who never placed any orders |
| **Query:**  select \* from northwind.customers  left join northwind.orders on orders.customer\_id = customers.customer\_id  where orders.customer\_id is null; |
| **Screenshot:** |

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| **26.** Find all customer IDs that never placed orders with Employee ID 4. |
| **Query:**  select customer\_id from northwind.orders  minus  select distinct(customer\_id) from northwind.orders where employee\_id = '4' order by customer\_id; |
| **Screenshot:** |

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| **27.** Find customers who made at least 1 order with a total value (including the discount) equal to $15,000 or more.consider orders made in the year 2016. |
| **Query:**  select \* from (select customers.\*,orders.order\_date, order\_details.unit\_price \* order\_details.quantity \* (1-order\_details.discount) as spend  from northwind.customers  inner join northwind.orders on orders.customer\_id = customers.customer\_id  inner join northwind.order\_details on order\_details.order\_id = orders.order\_id  ) where spend > 15000 and order\_date between '1-1-2016' and '31-12-2016'; |
| **Screenshot:** |

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| **28.** List all orders made on the last day of the month. Order the results by employee id and order id |
| **Query:**  select \* from northwind.orders where extract(day from order\_date+1) = 1 order by employee\_id, order\_id; |
| **Screenshot:** |

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| **29.** Display top 10 orders with the most line items, in order of total line items. |
| **Query:**  select a.order\_id, count(\*) from northwind.order\_details a  right join (select order\_id, count(\*) as count from northwind.order\_details group by order\_id order by count desc fetch first 10 rows only) b  on a.order\_id = b.order\_id  group by a.order\_id order by a.order\_id; |
| **Screenshot:** |

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| **30. 5 Marks question** A sales person Janet Leverling thinks that she accidentally double entered a line item on an order, with a different Product id, but the same quantity. Lucklly She remembers that the quantity was 60 or more. Show all the OrderIDs with line items that match this, in order of Order id. |
| **Query:**  select employees.employee\_id, employees.firstname, employees.lastname, orders.order\_id, a.product\_id, a.quantity  from northwind.employees  inner join northwind.orders on orders.employee\_id = employees.employee\_id  inner join northwind.order\_details a on orders.order\_id = a.order\_id  inner join northwind.order\_details b on b.order\_id = a.order\_id and b.quantity = a.quantity and b.product\_id != a.product\_id and b.quantity >= '60'  where firstname = 'Janet' and lastname = 'Leverling' order by order\_id;  **Explaination:**  Janet Leverling never placed a wrong order. |
| **Screenshot:** |