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Level A

1. List all customers:

Ans: SELECT * FROM customers;

2. List of all customers where company name ending in N:

Ans: SELECT * FROM customers where company_name LIKE '%N';

3. List of all customers who live in Berlin or London:

Ans: SELECT * FROM customers where city='Berlin' OR city='London';

4. List of all customers who live in UK or USA:

Ans: SELECT * FROM customers where country='UK' OR country='USA';

5. List of all products sorted by product name:

Ans: SELECT * FROM products ORDER BY product_name ASC;

6. List of all products name starting with an A:

Ans: SELECT * FROM products where product_name LIKE 'A%';

7. List of customers who ever placed an order:

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Ans: SELECT DISTINCT customers.customer_name FROM customers
       INNER JOIN orders ON customers.customer_id = orders.customer_id;
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8. List of Customers who live in London and bought chai:

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Ans: SELECT DISTINCT customers.customer_name FROM customers
     JOIN orders ON customers.customer_id = orders.customer_id
     JOIN order_details ON orders.order_id = order_details.order_id
     JOIN products ON order_details.product_id = products.product_id
     WHERE customers.city = 'London' AND products.product_name = 'Chai';
```

9. List of customers who never placed an order:

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Ans: SELECT c.*
       FROM customers c
       LEFT JOIN orders o ON c.customer_id = o.customer_id
       WHERE o.order_id IS NULL;
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10. List of customers who order Tofu:

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Ans: SELECT DISTINCT customers.*
       FROM customers
      JOIN orders ON customers.customer_id = orders.customer_id
     JOIN order_details ON orders.order_id = order_details.order_id
     JOIN products ON order_details.product_id = products.product_id
     WHERE products.product_name = 'Tofu';
```

11. Details of first order of the system:

Ans: SELECT *
FROM orders
ORDER BY order_date ASC LIMIT 1;

12. Find the details of most expensive order date:

Ans:SELECT orders.*, SUM(order_details.quantity * products.price) AS total_order_price FROM orders
JOIN order_details ON orders.order_id = order_details.order_id
JOIN products ON order_details.product_id = products.product_id
GROUP BY orders.order_id
ORDER BY total_order_price DESC
LIMIT 1;

13. For each order get the OrderID and Average quantity of items in that order:

Ans: SELECT orders.order_id, AVG(order_details.quantity) AS average_quantity FROM orders JOIN order_details ON orders.order_id= order_details.order_id GROUP BY orders.order_id;

14. For each order get the OrderID, minimum quantity and maximum quantity for that order:

Ans: SELECT orders.order_id, MIN(order_details.quantity) AS min_quantity, Max(order_details.quantity) AS max_quantity FROM orders JOIN order_details ON orders.order_id= order_details.order_id GROUP BY orders.order_id;

15. Get a list of all managers and total numbers of employees who report to them.

Ans: SELECT m.employee_id AS manager_id, CONCAT(m.first_name, ‘ ’, m.last_name) AS manager_name, COUNT(e.employee_id) AS number_of_reports FROM employee e JOIN employees m ON e.manager_id=m.employee_id GROUP BY m.employee_id, m.first_name, m.last_name;

16. Get the OrderID and the total quantity for each order that has a total quantity of greater than 300:

Ans: SELECT order_id, SUM(quantity) AS total_quantity FROM order_details GROUP BY order_id HAVING SUM(quantity) > 300;

17. List of all orders placed on or after 1996/12/31:

Ans: SELECT * FROM orders WHERE order_date >= '1996-12-31';

18. List of all orders shipped to Canada:

Ans: SELECT * FROM orders WHERE ship_country = 'Canada';

19. List of all orders with order total> 200:

Ans:SELECT order_details.order_id, SUM(order_details.quantity * order_details.unit_price) AS order_total FROM order_details GROUP BY order_details.order_id HAVING SUM(order_details.quantity * order_details.unit_price)>200;

20. List of countries and sales made in each country:

Ans: SELECT o.ship_country AS country,
SUM(od.quantity * od.unit_price) AS total_sales
FROM orders o
JOIN order_details od ON o.order_id = od.order_id
GROUP BY o.ship_country ORDER BY total_sales DESC;

21. List of Customer ContactName and number of orders they placed:

Ans: SELECT c.contact_name, COUNT(o.order_id) AS number_of_orders
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
GROUP BY c.contact_name;

22. List of customer contactNames who have placed more than 3 orders:

Ans: SELECT c.contact_name, COUNT(o.order_id) AS number_of_orders
FROM customers c
JOIN orders o ON c.customer_id = o.customer_id
GROUP BY c.contact_name HAVING COUNT(o.order_id) > 3;

23. List of discontinued products which were ordered between 1/1/1997 and 1/1/1998:

Ans: SELECT DISTINCT p.product_id, p.product_name
FROM products p
JOIN order_details od ON p.product_id = od.product_id
JOIN orders o ON od.order_id = o.order_id WHERE p.discontinued = 1
AND o.order_date BETWEEN '1997/01/01' AND '1998/01/01';

24. List of employee firstName, lastName, supervisor FirstName, LastName:

Ans: SELECT e.first_name AS employee_first_name,
e.last_name AS employee_last_name,
s.first_name AS supervisor_first_name,
s.last_name AS supervisor_last_name
FROM employees e

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LEFT JOIN employees s ON e.supervisor_id = s.employee_id;
```

25. List of Employee id and total sale conducted by employee:

```
Ans: SELECT e.employee_id,
     SUM(od.quantity * p.price) AS total_sales
     FROM employees e
     JOIN orders o ON e.employee_id = o.employee_id
     JOIN order_details od ON o.order_id = od.order_id
     JOIN products p ON od.product_id= p.product_id GROUP BY
     e.employee_id;
```

26. List of employees whose FirstName contains character a:

```
Ans: SELECT employee_id, first_name, last_name
      FROM employees WHERE first_name LIKE '%a%';
```

27. List of managers who have more than four people reporting to them:

```
Ans:SELECT manager_id, COUNT(*) AS number_of_reports
     FROM employees GROUP BY manager_id  HAVING COUNT(*) > 4;
```

28. List of Orders and ProductNames:

```
Ans: SELECT o.order_id, p.product_name
      FROM orders o
     JOIN order_details od ON o.order_id = od.order_id
     JOIN products p ON od.product_id = p.product_id;
```

29. List of Orders place by the best customer:

```
Ans: SELECT o.order_id, o.order_date, o.total_amount
      FROM orders o
    JOIN (SELECT customer_id, SUM(od.quantity * p.price) AS total_spent
           FROM orders o
          JOIN order_details od ON o.order_id = od.order_id
          JOIN products p ON od.product_id = p.product_id
          GROUP BY o.customer_id
          ORDER BY total_spent DESC LIMIT 1)
    AS best_customer ON o.customer_id = best_customer.customer_id;
```

30. List of orders placed by customers who do not have a Fax number:

```
Ans: SELECT o.*
      FROM orders o
      JOIN customers c ON o.customer_id = c.customer_id
     WHERE c.fax IS NULL OR c.fax = '';
```

31. List of Postal codes where the product Tofu was shipped:

Ans: SELECT DISTINCT o.ship_postal_code
FROM orders o
JOIN order_details od ON o.order_id = od.order_id
JOIN products p ON od.product_id = p.product_id
WHERE p.product_name = 'Tofu';

32. List of product Names that were shipped to France:

Ans: SELECT DISTINCT p.product_name
FROM orders o
JOIN order_details od ON o.order_id = od.order_id
JOIN products p ON od.product_id = p.product_id
WHERE o.ship_country = 'France';

33. List of productNames and Categories for the supplier 'specialty Biscuits,Ltd.

Ans: SELECT p.product_name, c.category_name
FROM products p
JOIN suppliers s ON p.supplier_id = s.supplier_id
JOIN categories c ON p.category_id = c.category_id
WHERE s.company_name = 'Specialty Biscuits, Ltd.';

34. List of products that were never ordered:

Ans: SELECT p.product_id, p.product_name
FROM products p
LEFT JOIN order_details od ON p.product_id = od.product_id
WHERE od.order_id IS NULL;

35. List of products where units in stock is less than 10 and units on orders are 0:

Ans: SELECT product_id, product_name, units_in_stock, units_on_order
FROM products
WHERE units_in_stock < 10 AND units_on_order = 0;

36. List of top 10 countries by sales:

Ans: SELECT o.ship_country AS country,
SUM(od.quantity * od.unit_price) AS total_sales
FROM orders o
JOIN order_details od ON o.order_id = od.order_id
GROUP BY o.ship_country
ORDER BY total_sales DESC LIMIT 10;

37. Number of orders each employee has taken for customers with customers with CustomerIDs between A and AO:

Ans: SELECT o.employee_id, COUNT(o.order_id) AS number_of_orders
FROM orders o
WHERE o.customer_id BETWEEN 'A' AND 'AO'
GROUP BY o.employee_id;

38. Orderdate of most expensive order:

Ans: SELECT o.order_id, o.order_date,
SUM(od.quantity * od.unit_price) AS total_order_value
FROM orders o
JOIN order_details od ON o.order_id = od.order_id
GROUP BY o.order_id, o.order_date
ORDER BY total_order_value DESC
LIMIT 1;

39. Product name and total revenue from the product:

Ans: SELECT p.product_name,
SUM(od.quantity * od.unit_price) AS total_revenue
FROM products p
JOIN order_details od ON p.product_id = od.product_id
GROUP BY p.product_name
ORDER BY total_revenue DESC;

40. Supplierid and number of products offered:

Ans: SELECT p.supplier_id, COUNT(p.product_id) AS number_of_products
FROM products p
GROUP BY p.supplier_id;

41. Top ten countries based on their business:

Ans: SELECT o.ship_country AS country,
SUM(od.quantity * od.unit_price) AS total_sales
FROM orders o
JOIN order_details od ON o.order_id = od.order_id
GROUP BY o.ship_country
ORDER BY total_sales DESC LIMIT 10;

42. What is the total revenue of the company:

Ans: SELECT SUM(od.quantity * od.unit_price) AS total_revenue
FROM order_details od;