Lab 3: More SQL

Run the following queries over on the sample classicmodels database, understand them and explain what each query does.

1. SELECT A.productCode, A.productName, B.orderNumber
   FROM products A
   INNER JOIN orderDetails B on A.productCode = B.productCode;

2. SELECT c.customerNumber, customerName,orderNumber, o.status
   FROM customers c
   LEFT JOIN orders o ON c.customerNumber = o.customerNumber;

3. SELECT o.customerNumber, orderNumber, o.status, customerName
   FROM orders o
   RIGHT JOIN customers c ON o.customerNumber = c.customerNumber;

4. SELECT c.customerNumber, c.customerName, c.salesRepEmployeeNumber, e.lastName, e.firstName
   FROM customers c
   LEFT OUTER JOIN employees e
   ON c.salesRepEmployeeNumber = e.employeeNumber;

5. SELECT c.customerNumber, c.customerName, e.employeeNumber, e.lastName, e.firstName
   FROM customers c
   RIGHT OUTER JOIN employees e
   ON c.salesRepEmployeeNumber = e.employeeNumber;

6. Unfortunately, MySQL does not have a FULL OUTER JOIN. Anyway, write a query to perform customers FULL OUTER JOIN employees using an alternate way.

7. SELECT o.customerNumber, orderNumber, o.status, customerName
   FROM orders o
   JOIN customers c

8. SELECT o.customerNumber, orderNumber, o.status, customerName
   FROM orders o
   NATURAL JOIN customers c

9. SELECT o.customerNumber, orderNumber, o.status, customerName
   FROM orders o
   INNER JOIN customers c

10. SELECT customerNumber, orderNumber, status, customerName
    FROM orders

```
JOIN customers
USING (customerNumber)
```

11. Write a query to join the three tables - customers LEFT OUTER JOIN (orders INNER JOIN orderdetails)

12.
```
SELECT customerNumber, checkNumber, amount
FROM payments
WHERE (customerNumber, checkNumber) NOT IN
(
        SELECT p.customerNumber, p.checkNumber
        FROM payments p, payments q
        where p.amount<q.amount
)
```

13.
```
SELECT customerNumber, customerName
FROM customers
WHERE customerName LIKE '%toys%'
```

14.
```
SELECT customerNumber, customerName
FROM customers
WHERE customerName COLLATE latin1_general_cs LIKE '%Land%'
```

15.
```
SELECT firstName, lastName, extension
FROM employees
WHERE extension LIKE 'x_ _ _ '
```

16.
```
SELECT firstName, upper(lastName) as lastName FROM employees
```

17.
```
SELECT p.productCode, productName FROM products p
WHERE quantityInStock <100 AND
EXISTS
(SELECT orderNumber FROM orderdetails o WHERE p.productCode = o.productCode)
```

18.
```
SELECT ordernumber, sum(quantityOrdered) AS itemsCount, sum(priceeach) AS total
FROM orderdetails
GROUP BY ordernumber
HAVING total > 1000 AND itemsCount > 600
```

19.
```
SELECT ordernumber, itemsCount
FROM
(
        SELECT ordernumber, sum(quantityOrdered) AS itemsCount
        FROM orderdetails
        GROUP BY ordernumber
```

```
) as t
WHERE t.itemsCount >300
```

20. Write a query to list the names of all products along with total quantity ordered for which the total quantity ordered has exceeded 500.