CECS323 Practice SQL

**Selects**

1. List all the data in the classic models database:
2. Product Lines (7)

Select productLine from productlines;

1. Product (110);

Select \* from products;

1. Employees (23)

Select \* from Employees;

1. Offices (7)

Select \* from Offices;

1. Customers (122)

Select \* from Customers;

1. Orders (326)

Select \* from Orders;

1. Orderdetails (2996)

Select \* from OrderDetails;

1. Payments (273)

Select \* from Payments;

1. Select customer name from customer. Sort by customer name (122)

Select customerName from Customers order by customerName;

1. List each of the different status that an order may be in (6)

Select distinct status from Orders;

1. List firstname and lastname for each employee. Sort by lastname then firstname (23)

Select firstName, lastName from Employees order by lastName, firstName;

1. List all the employee job titles (7)

Select distinct jobTitle from Employees;

1. List all products along with their product scale (110)

Select productScale from Products;

1. List all the territories where we have offices (4)

Select distinct territory from Offices;

**Where Clause**

1. select contact firstname, contact lastname and credit limit for all customers where credit limit > 50000 (85)

Select contactFirstName, contactLastName, creditLimit from Customers where creditLimit > 50000;

1. select customers who do not have a credit limit (0.00) (24)

Select customerName from Customers where creditLimit = 0.0;

1. List all offices not in the USA (4)

Select \* from Offices where country != 'USA';

1. List orders made between June 16, 2014 and July 7, 2014 (8)

Select \* from Orders where orderDate > '2014-06-16' and orderDate < '2014-07-07';

1. List products that we need to reorder (quantityinstock < 1000) (12)

Select \* from Products where quantityInStock < 1000;

1. List all orders that shipped after the required date (1)

Select \* from Orders where shippedDate > requiredDate;

1. List all customers who have the word ‘Mini’ in their name (10)

Select \* from Customers where customerName like '%Mini%';

1. List all products supplied by ‘Highway 66 Mini Classics’ (9)

Select \* from Products where productVendor = 'Highway 66 Mini Classics';

1. List all product not supplied by ‘Highway 66 Mini Classics’ (101)

Select \* from Products where productVendor != 'Highway 66 Mini Classics';

1. List all employees that don't have a manager (1)

Select \* from Employees where reportsTo is null;

**Natural Join**

1. Display every order along with the details of that order for order numbers 10270, 10272, 10279 (23)

Select \* from OrderDetails natural join Orders where orderNumber = 10270 or orderNumber = 10272 or orderNumber = 10279;

Hint: this can be done two ways. Try both of them. Which is easier if you have a large number of selection criteria?

1. List of productlines and vendors that supply the products in that productline. (65)

Select distinct productLine, productVendor from ProductLines natural join Products;

**Inner Join**

1. select customers that live in the same state as one of our offices (26)

Select \* from customers inner join offices on customers.city = offices.city;

1. select customers that live in the same state as their employee representative works (26)

Select \* from customers inner join offices on customers.city = offices.city;

**Multi-join**

1. select customerName, orderDate, quantityOrdered, productLine, productName for all orders made and shipped in 2015 (444)

Select distinct customerName, orderDate, quantityOrdered, productLine, productName from Customers natural join Orders natural join OrderDetails natural join ProductLines natural join Products where orderDate >= '2015-01-01' and orderDate <= '2015-12-31';

**Outer Join**

1. List products that didn't sell (1)

Select \* from Products left outer join OrderDetails on products.PRODUCTCODE = orderDetails.PRODUCTCODE where orderNumber is null;

1. List all customers and their sales rep even if they don’t have a sales rep (122)

**Aggregate Functions**

1. Find the total of all payments made by each customer (98)

Select avg(payments.amount) from payments natural join customers group by customerName

1. Find the largest payment made by a customer (1)
2. Find the average payment made by a customer (1)
3. What is the total number of products per product line (7)

Select Count(products.quantityInStock) from Products group by productline;

1. What is the number of orders per status (6)
2. List all offices and the number of employees working in each office (7)
3. Select productLine, quantityInStock, count(products) from ProductLines natural join products having count(products) > 10;

**Having**

1. List the total number of products per product line where number of products > 3 (6)
2. List the product lines and number of vendors for product lines that are supported by < 10 vendors (2)

**Computations**

1. What is the total cost per order for orders > 55000.00 sorted by largest total first. (15)
2. What is the profit per product (MSRP-buyprice) (110)

**Set Operations**

1. List all customers who didn't order in 2015 (78)
2. List all people that we deal with (employees and customer contacts). Display first name, last name, company name (or employee) (145)
3. List the states and the country that the state is part of that have customers but not offices, offices but not customers, or both one or more customers and one or more offices all in one query. Designate which state is which with the string 'Customer', 'Office', or 'Both'. If a state falls into the “Both” category, do not list it as a Customer or an Office state. Order by the country, then the state. Give the category column (where you list ‘Customer’, ‘Office’, or ‘Both’) a header of “Category” and exclude any entries in which the state is null. (19)
4. List the Product Code and Product name of every product that has never been in on order in which the customer asked for more than 48 of them. Order by the Product Name. (8)
5. List the last name, first name, and employee number of all of the employees who do not have any customers. Order by last name first, then the first name. (8).

**Subqueries**

1. Find the first name and last name of all customer contacts whose customer is located in the same state as the San Francisco office. (11)
2. Which products have an MSRP within 5% of the average MSRP across all products? List the Product Name, the MSRP, and the average MSRP ordered by the product MSRP.
3. Which customer made the largest individual payment. (1)
4. Which customers made an individual payment where half of the payment is more than average payment. List their name. (8)
5. Which orderline is the smallest in terms of money. List the order number, orderline number and the money involved on that orderline. (1)

**Recursion**

1. List all employees that have the same last name. Make sure each combination is listed only once (5)
2. List all the first and last name of all employees and their managers. Order by employee last name, then first name. (22)

**Extra**

1. What product that makes us the most money (qty\*price) (1)
2. List the products in the product line with the most number of products (38)
3. What is the customer and sales person of the highest priced order? (1)
4. What is the manager who manages the greatest number of employees (2)
5. Select all employees who work for the manager that manages the greatest number of employees (12)