Solutions for the Extra Problems in Module 4

The problems use the Order Entry Database as described in the Order Entry Database Background document. The course website also contains Oracle and PostgreSQL CREATE TABLE statements and INSERT statements.

1. List the customer number, the name (first and last), and the balance of customers.

2. List the customer number, the name (first and last), and the balance of customers who reside in Colorado (CustState is CO).

3. List all columns of the *Product* table for products costing more than $50. Order the result by product manufacturer (*ProdMfg*) and product name.

4. List the customer number, the name (first and last), the city, and the balance of customers who reside in Denver with a balance greater than $150 or who reside in Seattle with a balance greater than $300.

5. List the order number, order date, customer number, and customer name (first and last) of orders placed in January 2021 sent to Colorado recipients.

6. List the average balance of customers by city. Include only customers residing in Washington state (WA).

7. List the average balance and number of customers by city. Only include customers residing in Washington State (WA). Eliminate cities in the result with less than two customers.

1.
SELECT CustNo, CustFirstName, CustLastName, CustBal
  FROM Customer;

2.
SELECT CustNo, CustFirstName, CustLastName, CustBal
  FROM Customer

```
   WHERE CustState = 'CO';
```

3.
```
SELECT *
  FROM Product
  WHERE ProdPrice > 50
  ORDER BY ProdMfg, ProdName;
```

4. The parentheses are necessary when mixing the logical AND and OR connectors.

```
SELECT CustNo, CustFirstName, CustLastName, CustCity, CustBal
  FROM Customer
  WHERE (CustCity = 'Denver' AND CustBal > 150)
     OR (CustCity = 'Seattle' AND CustBal > 300);
```

5.

```
SELECT OrdNo, OrdDate, Customer.CustNo, CustFirstName, CustLastName
  FROM OrderTbl, Customer
  WHERE OrdState = 'CO' AND OrdDate BETWEEN '1-Jan-2021' AND '31-Jan-2021'
     AND OrderTbl.CustNo = Customer.CustNo;
```

```
SELECT OrdNo, OrdDate, Customer.CustNo, CustFirstName, CustLastName
  FROM OrderTbl INNER JOIN Customer ON OrderTbl.CustNo = Customer.CustNo
  WHERE OrdState = 'CO' AND OrdDate BETWEEN '1-Jan-2021' AND '31-Jan-2021';
```

Alternative date format for PostgreSQL

```
SELECT OrdNo, OrdDate, Customer.CustNo, CustFirstName, CustLastName
  FROM OrderTbl, Customer
  WHERE OrdState = 'CO' AND OrdDate BETWEEN '2021-01-01' AND '2021-01-31'
     AND OrderTbl.CustNo = Customer.CustNo;
```

```
SELECT OrdNo, OrdDate, Customer.CustNo, CustFirstName, CustLastName
  FROM OrderTbl INNER JOIN Customer ON OrderTbl.CustNo = Customer.CustNo
  WHERE OrdState = 'CO' AND OrdDate BETWEEN '2021-01-01' AND '2021-01-31';
```

6.
```
SELECT CustCity, AVG(CustBal) AS AvgBal
  FROM Customer
  WHERE CustState = 'WA'
  GROUP BY CustCity;
```

7.
```
SELECT CustCity, AVG(CustBal) AS AvgBal, COUNT(*) AS NumCustomers
```

```
FROM Customer
WHERE CustState = 'WA'
GROUP BY CustCity
HAVING COUNT(*) > 1;
```