

# Exercise

CSC230 Database Technologies for Analytics

10 November 2016

For these exercises, use the sample database that the author of *Learning SQL* has given us. I have placed a link to a SQL script that builds the database on Moodle.

1. Write a query that finds the identification numbers of all customers.

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```
SELECT cust_id FROM customer;
```

2. Write a query that produces a table of identification numbers of customers together with the identification numbers of their accounts.

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```
SELECT c.cust_id, a.account_id  
FROM customer c INNER JOIN account a  
ON c.cust_id = a.cust_id;
```

3. Write a query that produces a table of identification numbers of customers together with words (e.g., “Checking,” “Savings,” “Certificate of Deposit,” “Money Market”) that describes the kinds of accounts that those customers own.

---

```
SELECT c.cust_id AS 'Customer_#',
```

```

        a.account_id AS 'Account_#',
        p.name AS 'Name'
FROM customer c INNER JOIN account a
    ON c.cust_id = a.cust_id
INNER JOIN product p
    ON a.product_cd = p.product_cd;

```

4. Write a query that finds the identification numbers of the accounts that belong to customer #8.

---

```

SELECT a.account_id
FROM customer c INNER JOIN account a
    ON c.cust_id = a.cust_id
WHERE c.cust_id = 8;

```

5. Write a query that reports the number of customers. The result set will have just one column and one row. Write the query so that the label on the column is "Number of customers."

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```

SELECT COUNT(*) AS 'Number_of_customers' FROM customer;

```

6. Write a query that lists the number of accounts that each customer has.

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```

SELECT c.cust_id, COUNT(*) AS 'Number_of_accounts'
FROM customer c INNER JOIN account a
    ON c.cust_id = a.cust_id
GROUP BY c.cust_id;

```

7. Write a query that lists the identification numbers of customers of those customers who are individuals together with the names of those customers.

The result set will contain two columns. Construct the names in the second column by concatenating a customer's first name and last name.

---

```
SELECT c.cust_id , CONCAT(i.fname, ' ', i.lname) AS 'Name'  
FROM customer c INNER JOIN individual i  
ON c.cust_id = i.cust_id;
```

8. Write a query that lists the identification numbers of customers that are businesses together with the names of those customers. The result set will contain two columns.
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```
SELECT c.cust_id , b.name AS 'Name'  
FROM customer c INNER JOIN business b  
ON C.CUST_ID = b.cust_id;
```

9. Write a query that lists the identification numbers of all customers together with the names of those customers. The result set will contain two columns. It will include identification numbers and names both of customers who are individuals and customers that are businesses.
- 

```
(SELECT c.cust_id , CONCAT(i.fname, ' ', i.lname) AS 'Name'  
FROM customer c INNER JOIN individual i  
ON c.cust_id = i.cust_id)
```

**UNION**

```
(SELECT c.cust_id , b.name AS 'Name'  
FROM customer c INNER JOIN business b  
ON c.cust_id = b.cust_id;)
```

10. Write a query that identifies all transactions that took place in the year 2003.
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```
SELECT txn_id, txn_date FROM transaction  
WHERE txn_date BETWEEN '2003-1-1' AND '2003-12-31';
```