Name: _____

CSC134 Spring 2019
Quiz 4
100 points

Use the following schema to answer questions below:

BANK(id, name, address)

LOAN(loan_num, balance, type, branch) foreign key (branch) references to BRANCH(branch_id)

CUSTOMER(ssn, name, address, phone)

CUSTOMER_LOAN(ssn, loan_num) foreign key (ssn) references to CUSTOMER(ssn), foreign
      key (loan_num) references to LOAN(loan_num)

BRANCH(bank_id, branch_id, name, address) foreign key (bank_id) references to BANK(id)

ACCOUNT(acct_num, branch, balance, type) foreign key (branch) references to
      BRANCH(branch_id)

CUSTOMER_ACCT(ssn, acct_num) foreign key (ssn) references to CUSTOMER(ssn), foreign
      key (acct_num) references to ACCOUNT (acct_num)

1) (25 pts) Give a valid order the tables could be created in that would not cause errors
   and would not require using ALTER TABLE to add all the constraints shown above.

   This is one valid order – there are others:
   BANK, CUSTOMER, BRANCH, LOAN, ACCOUNT, CUSTOMER_LOAN,
   CUSTOMER_ACCT

2) (15 pts) What is the largest account balance we can store with a format of
   DECIMAL(5,2) ?

   DECIMAL(i, j) means we have *i* total digits and *j* digits after the decimal point, so the
   largest number we could store is 999.99.

Name: _____

3) (30 pts) Write a valid SQL query that finds the name and social security number of all customers who have loans with a balance over $1000. Correct syntax must be used.

There are a couple of ways to do this, but since we said we would only be tested here on simple queries, not including joins or nested queries, this works:

```
SELECT name, C.ssn
FROM CUSTOMER as C, CUSTOMER_LOAN as CL, LOAN as L
WHERE balance > 1000
      AND L.loan_num = CL.loan_num
      AND CL.ssn = C.ssn;
```

4) (30 pts) Write a valid SQL query that finds the name and address of all banks that have accounts that have a type of 'savings' with a balance of less than $25. Correct syntax must be used.

```
SELECT B.name, B.address
FROM BANK as B, BRANCH, ACCOUNT
WHERE id = bank_id
      AND branch = branch_id
      AND type = 'savings'
      AND balance < 25;
```