## Tutorial - Week 3 - Relational Algebra

January 15, 2017

Suppose we have the following relational database:

branch(branch\_name, branch\_city, assets)
customer(customer\_name, customer\_street, custromer\_city)
loan(loan\_number, branch\_name, amount)
borrower(customer\_name, loan\_number)
account(account\_number, branch\_name, balance)
depositor(custromer\_name, account\_number)

- 1. What are appropriate primary keys?
- 2. Given your choice of primary keys, identify appropriate foreign keys.
- 3. Find the names of all branches located in 'Chicago'.
- 4. Find the names of all borrowers who have a loan in branch 'Down-town'.
- 5. Find all loan numbers with a loan value greater than \$10, 000.
- 6. Find the names of all depositors who have an account with a value greater than \$6000.
- 7. If there is extra time, work with a partner. Have one person make up a query, have the other write the relational algebra to retrieve the data.