**Question 1:**

* 1. Yes all of the tables exhibit entity integrity. They all have well defined and unique primary keys that uniquely identify each row or tuple.
  2. **Employee FK(s) = job\_code**

employee(job\_code) = referencing relation

job(job\_code(pk)) = referenced relation

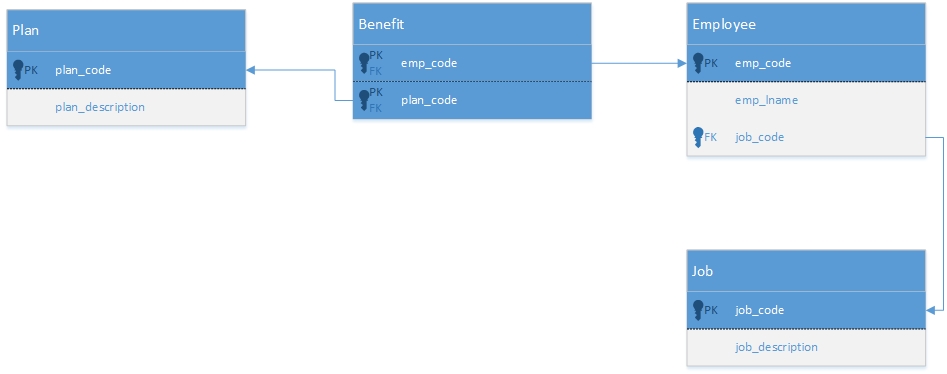
**Benefit FK(s) = emp\_code, plan\_code (CMPK)**

Benefit(emp\_code) = referencing relation

Benefit(plan\_code) = referencing relation

Employee(emp\_code(pk)) = referenced relation

Plan(plan\_code(pk)) = referenced relation



* 1. Yes, the tables exhibit referential integrity. Each foreign key points to a unique primary key in another table and those primary keys are referenced by unique foreign keys.

**Question 2:**

* 1. **Loan FK(s) = branch\_id**

loan(branch\_id) = referencing relation

branch(branch\_id) =

**Borrower FK(s) = customer\_id, loan\_number (CMPK)**

borrower(customer\_id) =

borrower(loan\_number) =

customer(customer\_id) =

loan(loan\_number) =

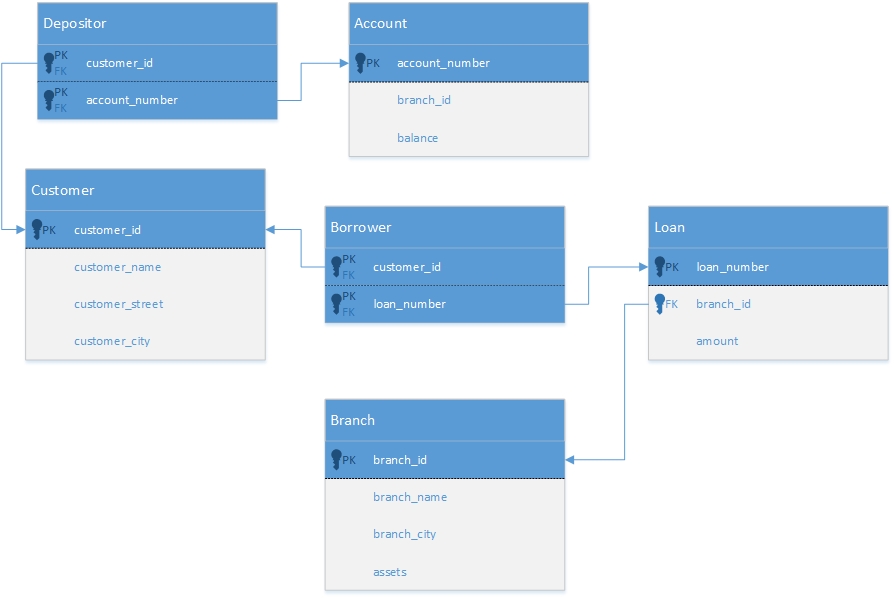
**Depositor FK(s) = customer\_id, account\_number (CMPK)**

depositor(customer\_id) =

depositor(account\_number) =

customer(customer\_id) =

account(account\_number) =



2.2

create database question2;

use question2;

create table Branch(branch\_id int, branch\_name varchar(25), branch\_city varchar(25), assets decimal(13, 4), primary key (branch\_id));

create table Customer(customer\_id int, customer\_name varchar(25), customer\_street varchar(25), customer\_city varchar(25), primary key (customer\_id));

create table Loan(loan\_number int, branch\_id int, amount decimal(13, 4), primary key (loan\_number) ,foreign key (branch\_id) references Branch(branch\_id));

create table Borrower(customer\_id int, loan\_number int, primary key (customer\_id, loan\_number), foreign key (customer\_id) references Customer(customer\_id), foreign key (loan\_number) references Loan(loan\_number));

create table Account(account\_number int, branch\_id int, balance decimal(13, 4), primary key (account\_number), foreign key (branch\_id) references Branch(branch\_id));

create table Depositor(customer\_id int, account\_number int, primary key (customer\_id, account\_number), foreign key (customer\_id) references Customer(customer\_id), foreign key (account\_number) references Account(account\_number));

insert into branch values (1, 'First Bank of Ferenginar', 'Tower of Commerce', 9127854.32);

insert into branch values (2, 'Bank of Andor', 'Laikan', 19025465.23);

insert into branch values (3, 'Bank of Bolis', 'Bole', 57954895.23);

insert into customer values (00001, 'William Riker', '#1 1st street', 'Anchorage');

insert into customer values (00002, 'Quark', '285 Capitalism Way' , 'Tower of Commerce');

insert into customer values (00003, 'James T. Kirk', '51 W. 1st St' , 'Riverside');

insert into loan values (0258, 1, 150000.00);

insert into loan values (9458, 2, 23658.00);

insert into loan values (2236, 3, 1254874.00);

insert into borrower values (00001, 0258);

insert into borrower values (00002, 9458);

insert into borrower values (00003, 2236);

insert into account values (12345, 1, 455879.23);

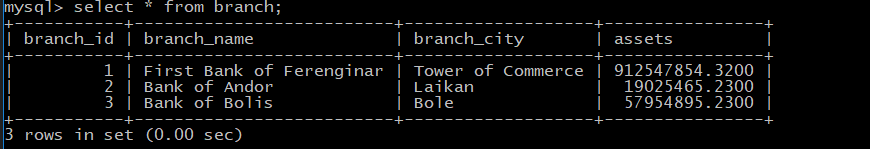
insert into account values (65848, 2, 8965741.89);

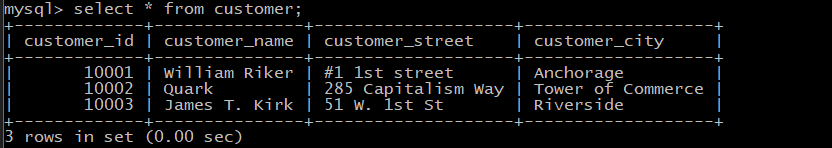
insert into account values (96518, 3, 78945874.32);

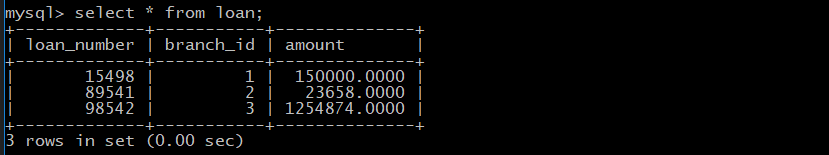
insert into depositor values (00001, 12345);

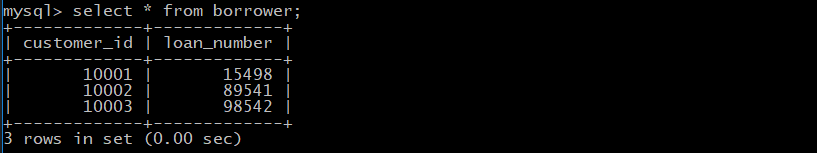
insert into depositor values (00002, 65848);

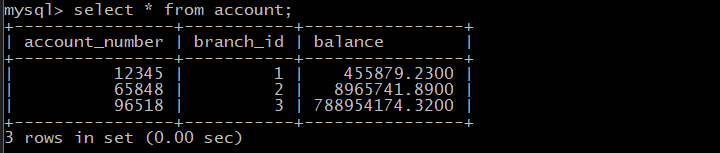
insert into depositor values (00003, 96518);

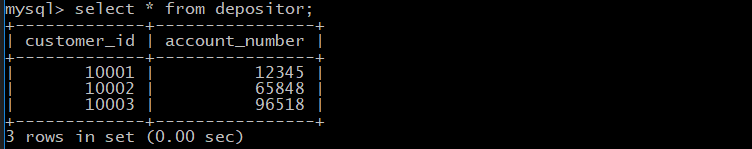
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2.3

**1**

**2**

**3**

2.4

**1**

Find the branch names of all branches in Chicago

**2**

Find the loan number of any branch in Chicago that has a loan.