Assignment 2

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Question 1:

Relation Schema: defines structure of relation in database with specifications of attributes and corresponding data types.

- Create table student (student_ID INT primary key, name varchar(50), major varchar(50), year INT)

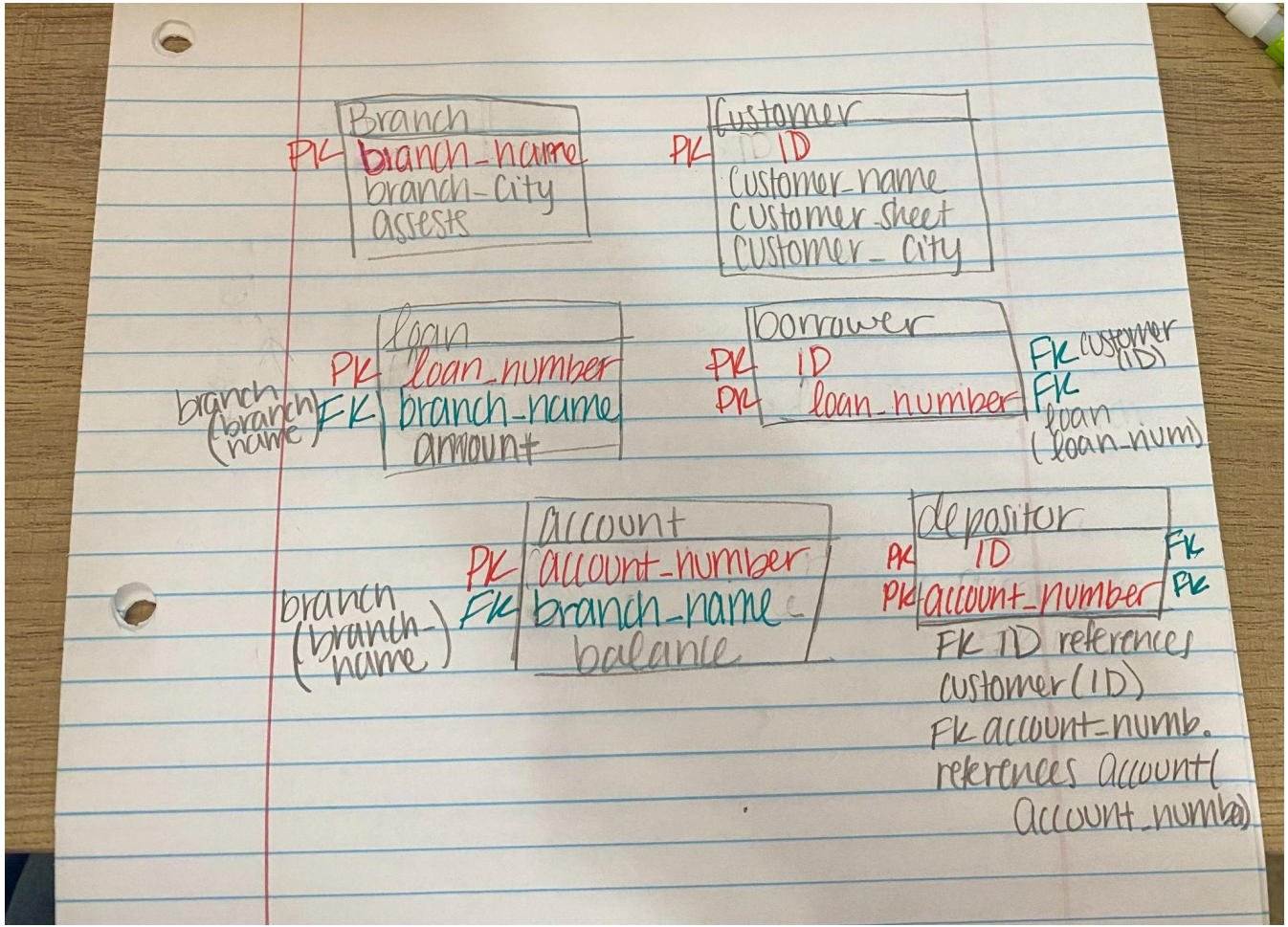
Relation: set of tuples that share common structure defined by relation schema

- (1, “John Doe”, “Comp. Sci.”, 2)

Instance: rows of data contained with table at specific time

- student_id | name | major | year
- ----------
- 1 | John Doe | Comp. Sci. | 2
- 2 | Jane Smith | Engineering | 2
- 3 | Alice Brown | Biology | 1

Question 2


Branch
PK branch_name
branch_city
assests
Customer
PK ID
customer_name
customer_sheet
customer_city
loan
PK loan_number
branch (branch name) FK branch_name
amount
borrower
PK ID
PK loan_number
FK customer (ID)
FK loan (loan_num)
account
PK account_number
branch (branch name) FK branch_name
balance
depositor
PK ID
PK account_number
FK
FK
FK ID references customer(ID)
FK account_numb. references account(account_numb)

Question 3:

Primary keys: branch(branch_name), customer(ID), loan(loan_number), borrower(ID, loan_number), account(account_number), depositor(ID, account_number)

Foreign Keys:

loan(branch_name) references branch(branch_name)

borrower(ID) references customer(ID), borrower(loan_number) references loan(loan_number)

account(branch_name) references branch(branch_name)

depositor(ID) references customer(ID), depositor(account_number) references account(account_number)