Homework #2

2.7

a. $\prod_{branch\_name}(\sigma_{brach\_city=Chicago}(branch))$

b.
$\prod_{ID}(\sigma_{branch\_name=Downtown}(\prod_{ID,branch\_name}(\sigma_{borrower.loan\_number=loan.loan\_number}(loan \times borrower))))$
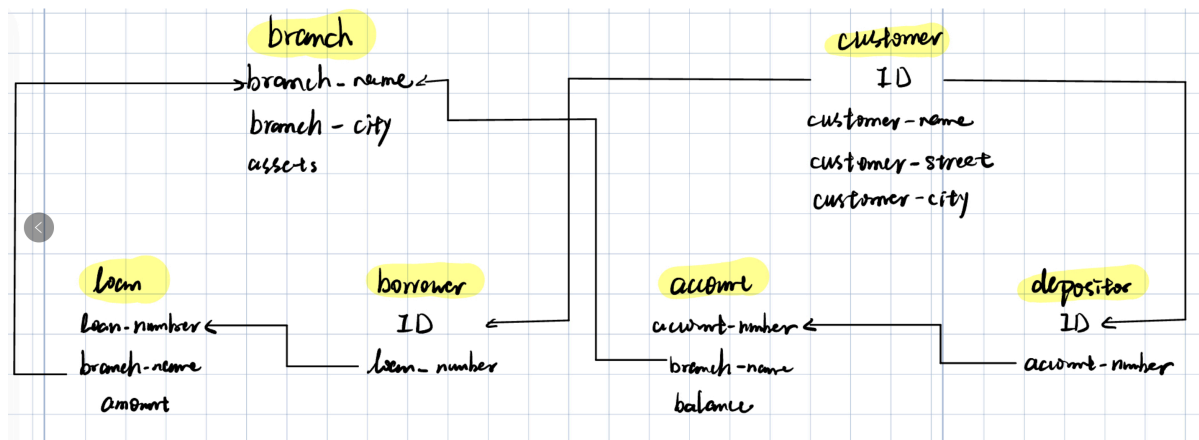
2.12

a. 在关系中能唯一标识元组，且不含多余属性的属性集合

b.

Name	Primary key	foreigner key
branch	branch_name	null
customer	customer_name	ID
loan	loan_number	branch_name
borrower	ID	loan_number
account	account_number	branch_name
depositor	ID	account_number

2.13

2.15

a. $\prod_{loan\_number}(\sigma_{amount>\$10000}(loan))$

b. $\prod_{depositor.ID}(\sigma_{account.balance>\$6000}(depositor \bowtie account))$

c. $\prod_{depositor.ID}(\sigma_{account.balance>\$6000}(depositor \bowtie_{account.branch\_name=Uptown} account))$