

# 数据库作业Week 2

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## 2.7

- a.  $\Pi_{branch\_name}(\sigma_{branch\_city='Chicago'}(branch))$
- b.  $\Pi_{ID}(borrower \bowtie (\sigma_{loan.branch\_name='Downtown'}(loan)))$

## 2.12

a.

*branch* (branch name, branch city, assets)

*customer* (ID, customer name, customer street, customer city)

*loan* (loan number, branch name, amount)

*borrower* (ID, loan\_number).primary key  $\rightarrow \{ID, loan\_number\}$

*account* (account number, branch name, balance)

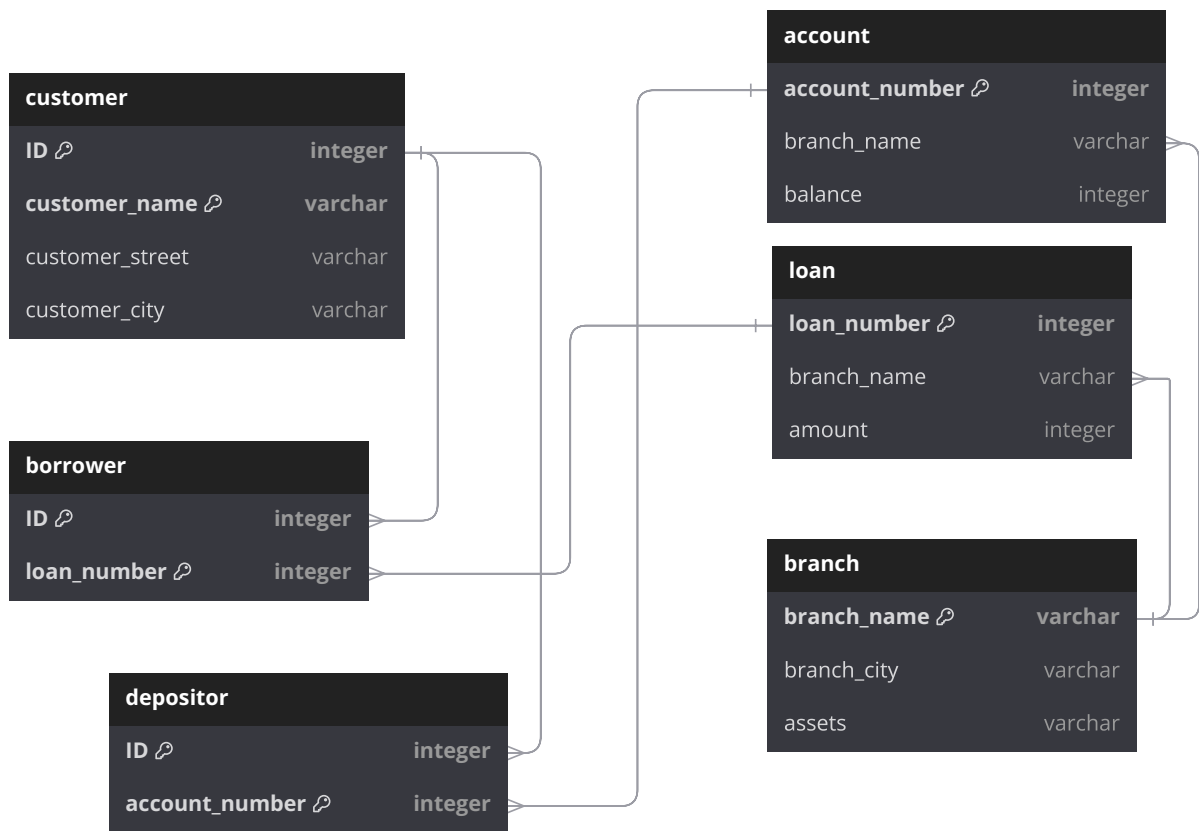
*depositor* (ID, account number).primary key  $\rightarrow \{ID, account\_number\}$

b.

1. For loan "**branch\_name**" referencing **branch**.
2. For borrower "**ID**" referencing **customer**, "**loan\_number**" referencing **loan**.
3. For account "**branch\_name**" referencing **branch**.
4. For depositor "**ID**" referencing **customer**, "**account\_number**" referencing **account**

## 2.13

- referencing 是 $\psi$ 类似的三叉戟, referenced 是单线连接。



## 2.15

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

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

c.  $\Pi_{ID}(\sigma_{balance > \$6000 \wedge branch\_name = 'Uptown'}(depositor \bowtie account))$